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L. Theses

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A Visual Programming Language for Live Video Sonification. Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, March.
2. Marquardt, Nicolai (2008)
Developer Toolkit and Utilities for Rapidly Prototyping Distributed Physical User Interfaces. Diplom Thesis, Bauhaus-University Weimar, Faculty of Media, Media Systems Science, Germany, March 10. *Part of this work was done during a research internship at the University of Calgary.*
3. Nunes, Michael (2008)
Sharing Digital Photographs in the Home Through Physical Memorabilia. Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, September.
4. Neustaedter, C. (2007)
Domestic Awareness and the Role of Family Calendars. PhD thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, February.

5. Smale, Stephanie (2007)
Collecting and Sharing Transient Personal Information Online. Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, November.
6. Tee, Kimberly (2007)
Artifact Awareness for Distributed Groups through Screen Sharing. Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, December.
7. Tse, E. (2007)
Multimodal Co-located Interaction. PhD thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, December.
8. Elliot, K. (2006)
Contextual Locations in the Home. Master's thesis, Dept. Computer Science, University of Calgary, Calgary, Alberta, Canada, December.
9. McEwan, G. (2006)
Community Bar: Designing for Informal Awareness and Casual Interaction. Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, September.
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Privacy in Media Spaces. PhD thesis, Department of Computer Science, University of Calgary, Calgary, Alberta Canada, April.
11. Tang, Anthony Hoi Tin (2005)
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Informal Awareness and Casual Interaction with the Notification Collage. Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, April.
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The Single Display Groupware Toolkit. Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, November.
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Balancing Privacy and Awareness in a Home Media Space. Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta Canada, May.
15. Tang, C. (2003)
Capturing and Visualizing Histories of Multimedia-based Casual Interactions. Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta Canada, December.
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- Supporting Results Synthesis in Heuristic Evaluation.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, November.
20. Gutwin, C. (1997)
Workspace Awareness in Real-Time Distributed Groupware. PhD thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, December.
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Flexible Data Sharing in a Groupware Toolkit. Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, November.
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Evaluating History Mechanisms: An Empirical Study of Reuse Patterns in WWW Navigation. Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, June.
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Visualizing Large, Loosely-Structured, Hierarchical Information Spaces. Master's thesis, Department of Computer Science, University of Calgary, Calgary, Canada, September.
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Design of a Real-Time Groupware Toolkit. Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, February.
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Tool use, reuse and organization in command-driven interfaces. PhD thesis, Department of Computer Science, University of Calgary, 2500 University Drive NW, Calgary, Alberta, Canada, December.
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M. Independent papers (produced by people supervised by Greenberg)

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2. Goecks, J., Volda, A., Volda, S. and Mynatt, E. (2008)
Charitable Technologies: Opportunities for Collaborative Computing in Nonprofit Fundraising. In Proc. ACM Conference on Computer Supported Cooperative Work - ACM CSCW'08. (San Diego, CA), ACM Press, 10 pages, Nov. 8-12.
3. Volda, S., Mynatt, E. and Edwards, W.K. (2008)
Re-framing the Desktop Interface Around the Activities of Knowledge Work. In Proc. ACM Symposium on User Interface Software and Technology - ACM UIST'08. (Monterey, CA), ACM Press, 10 pages, October 19-22.
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Multimodal Co-located Collaboration. In UIST Doctorial Consortium, Adjunct Proceedings of ACM UIST 2006. See also minute madness video presented at the conference.
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8. Tse, E. (2005)
Using Aspects to Convert Single User Applications into Multiple User Applications. Research report 2005-785-16, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, April.
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A Shared Vocabulary for Privacy. In Workshop on Ubicomp Communities: Privacy as Boundary Negotiation. Held as part of the 5th International Conference on Ubiquitous Computing, UBIComp'03. (Seattle), October 12.
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The Shape of Conversation: An Interactive Installation. Research report iLab-2003-5, Grouplab, Dept. Computer Science, University of Calgary. Video report, duration 2:49.
14. Venolia, G. and Neustaedter, C. (2003)
Understanding Sequence and Reply Relationships within Email Conversations: A Mixed-Model Visualization. In Proceedings of the ACM Conference on Human Factors in Computing Systems - ACM CHI'03. ACM Press, April 5-10. Earlier version as Microsoft Research Report MSR-TR-2002-102, September 2002. This research was done at Microsoft Research.
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Buddy Bugs: A Physical User Interface for Windows Instant Messenger. In Proceedings of Western Computer Graphics Symposium - Skigraph'02, March. Note that iLab-2002-1 video was also shown during the conference talk.
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19. McCaffrey, L. (1998)
Representing Change in Persistent Groupware Environments. Research report GroupLab, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, January.
20. Roseman, M. (1996)
Managing Complexity in TeamRooms, a Tcl-Based Internet Groupware Application. In Proceedings of the 1996 Tcl/Tk Workshop. Usenix Press.
21. Jaeger, S. (1995)
Mega-Widgets in Tcl/Tk: Evaluation and Analysis. In Proceedings of the 1995 Tcl/Tk Workshop. (Toronto), Usenix Press, July 6-8.
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N. Software and Research Data made available to other researchers

Good science requires replication, validation, and continuation of research by others. Because of the complexity of software, I believe that it is critical to provide other researchers with toolkits for rapidly prototyping innovative software, copies of significant research applications, and any of the usage data collected. A sampling of software is listed below. This list is by no means complete. Most software has been used by others. For example, the various toolkits we created have been used all around the world by a quite diverse set of researchers. The usage data (listed last) has been used as a central part of both a PhD and a Masters thesis at other Canadian universities. TeamRooms and Phidgets have been commercialized.

1. Shared Phidgets, a new version of Phidgets that handles distributed devices
2. Phidgets, a rapid prototyping toolkit for physical user interfaces
3. SDG Toolkit, for rapidly prototyping Single Display Groupware
4. DiamondTouch Toolkit, for rapidly prototyping applications on the DiamondTouch Surface
5. .Networking, for rapidly prototyping distributed applications
6. Community Bar groupware sidebar
7. Community Bar Media items for rapidly building groupware multimedia items for the above system
8. EasyImages for video capture as bitmap frames and basic image processing of frames and images
9. Collabrary, for rapidly prototyping distributed multimedia applications
10. Souvenirs domestic appliance for photo-sharing in the home
11. TimeLine, an interactive visualization of long video sequences in a single screen
12. TeamRooms, a groupware environment based on virtual rooms.
13. GroupKit. A groupware toolkit.
14. Data collection of client side web-browser use, capturing people's Web navigation patterns
15. Concurrency control management software for groupware.
16. GroupSketch and XGroupSketch. Two groupware drawing programs.
17. Share. A terminal sharing system with flexible floor control.
18. GIC. A graphical front end for a concurrent version control system.
19. Data collected of 168 people using Unix for 4 months.

Last updated October, 2008 by Saul Greenberg

EXHIBIT B1

DOCUMENTS AND MATERIALS RELIED UPON

- [**Akamai-1**] Akamai Technologies, Inc. Akamai FreeFlow brochure. Copyright 1999.
- [**Alexander-1**] Alexander, J., Cockburn, A., Fitchett, S., Gutwin, C. and Greenberg, S. (2009) Revisiting Read Wear: Analysis, Design, and Evaluation of a Footprints Scrollbar. In *Proc. ACM Conference on Human Factors in Computing Systems – ACM CHI 2009 (in press)*. Earlier version available as Research report CSSE TR-COSC-02-08, Computer Science, University of Canterbury, NZ.
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- [**Ayers-1**] Ayers, Eric Z. and Stasko, John T. (1995) Using Graphic History in Browsing the World Wide Web. GVU Technical Report;GIT-GVU-95-12, Georgia Institute of Technology . <http://hdl.handle.net/1853/3557>. Also published in: Proceedings of the Fourth International World Wide Web Conference, Boston, December 1995.
- [**Bederson-1**] Bederson, B.B., Hollan, J.D., Stewart, J., Rogers, D., Druin, A., and Vick, D. A Zooming Web Browser. SPIE Multimedia Computing and Networking, Volume 2667, pp 260-271, 1996.
- [**Bederson-2**] Hightower, R. R., Ring, L. T., Helfman, J. I., Bederson, B. B., and Hollan, J. D. 1998. Graphical Multiscale Web Histories: A Study of PadPrints. In Proceedings of ACM Conference on Hypertext (Hypertext 98) ACM Press, pp. 58-65.
- [**Bederson-3**] Bederson, B. (1995) Pad++. Video at Proceedings of the 3rd Annual USENIX Workshop on Tcl/Tk (held at Toronto, Canada)
- [**Bederson-4**] Hightower, R., Ring, I., Helfman, J., Bederson, B., Hollan, J. (1998) PadPrints: Graphical Multiscale Web Histories. Video at ACM UIST'98 User Interface Software Technology, ACM.
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- [**Campione-1**] Campione, M. and Walrath, K. (1996) The Java Tutorial. Object-Oriented Programming for the Internet. Series: Java Se
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- [**Card-2**] Card, S. K., Robertson, G. G., and York, W. 1996. The WebBook and the Web Forager: video use scenarios for a World-Wide Web information workspace. In Conference Companion on Human Factors in Computing Systems: Common Ground (Vancouver, British Columbia, Canada, April 13 - 18, 1996). 416-417. Includes Abstract and Video.
- [**Chen-1**] Chen, M., Hearsty, M., Hong, J., and Lin, J. 1999. Cha-Cha: a system for organizing intranet search results. In Proceedings of the 2nd Conference on USENIX Symposium on internet Technologies and Systems - Volume 2 (Boulder, Colorado, October 11 - 14, 1999). USENIX Association, Berkeley, CA
- [**Cisco-1**] Cisco Systems, Inc. The Network Architecture Behind NetAid. White Paper, Copyright 1999, 17 pages.
- [**CNN-1**] CNN Interactive. dated March 2, 1998 Site-Seer: the DOJ v. Microsoft.
- [**Cockburn-1**] Cockburn, A., Greenberg, S., McKenzie, B., Jasonsmith, M. and Kaasten, S. (1999) WebView: A Graphical Aid for Revisiting Web Pages. In *Proceedings of the Australian Conference on Human Computer Interaction - OZCHI'99*. (Wagga Wagga, Australia), pages 15-22, November 28-30.
- [**Cockburn-2**] Cockburn, A. and Greenberg, S. (1999) Beyond the Back Button. Research report iLab-1997-2, Grouplab, Dept. Computer Science, University of Calgary. Video report, duration 6:35.
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- [**DoubleClick-1**] DoubleClick web site. Intro. Marked with the date 06.25.1998. Marked IACGIR0002472 to 74.
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- [**DoubleClick-3**] DoubleClick web site. Site Modifications. Marked with the date 02.05.1998. IACGIR0002476 to 79.
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- [Greenberg-1]** Greenberg, S. and Rounding, M. (2001) The Notification Collage: Posting Information to Public and Personal Displays. In Proceedings of the ACM Conference on Human Factors in Computing Systems - ACM CHI'01. ACM Press, pages 515-521.
- [Greenberg-2]** Greenberg, S. and Boyle, M. (2006) Generating Custom Notification Histories by Tracking Visual Differences between Web Page Visits. In Proceedings of Graphics Interface - GI'06. (Quebec City, Canada), pages 227-234, June 7-9.
- [Greenberg-3]** Greenberg, S. (1996) CPSC 441—Assignment 3 (10%) Building An Image Web Crawler and a Web Server. Assignment given out to students in the Course CPSC 441 at the University of Calgary in 1996. The file is dated Mar 20, 1996 in Saul Greenberg's personal archive of course materials.
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- [Kaasten-2]** Kaasten, S. and Greenberg, S. (2000) Designing an Integrated Bookmark / History System for Web Browsing. In *Proceedings of the Western Computer Graphics Symposium 2000*. (Panorama Mountain Village, BC, Canada), March 26-29. Also collected in: Report 2000-652-04, Dept Computer Science, U. Calgary, March.
- [Kaasten-3]** Kaasten, S. and Greenberg, S. (2001) Integrating History, Bookmarks and Back. *Research report iLab-2001-2*, Grouplab, Dept. Computer Science, University of Calgary, June. Video report, duration 4:41.
- [Kaasten-4]** Kaasten, S. and Greenberg, S. (2001) Integrating Back, History and Bookmarks in Web Browsers. In *Extended Abstracts of the ACM Conference of Human Factors in Computing Systems - ACM CHI'01*, pages 379-380. ACM Press. See also accompanying presentation . Also as Report 2000-675-27, December 2000.

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- [**Kopetzky-1**] Kopetzky, T. and Muhlhauser, M. (1999) Visual preview for link traversal on the World Wide Web. *Computer Networks* 3 (11-16), May, pages 1525-1532.
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- [**Langheinrich-1**] Langheinrich, M., Atsuyoshi Nakamura, Naoki Abe, Tomonari Kamba, Yoshiyuki Koseki: Unintrusive Customization Techniques for Web Advertising. Proc. 8th International World Wide Web Conference. pp. 181-194, Toronto, May 1999.
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- [**Microsoft-1**] Microsoft, Inc. How to Enable the Thumbnail View for Folders in Windows Explorer. Microsoft Help and Support Article ID: 176882. Previously published under Q176882.
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- [**Rao-2**] Rao, R., Card, S. K., Johnson, W., Klotz, L., and Trigg, R. H. 1994. Protofoil: storing and finding the information worker's paper documents in an electronic file cabinet. In

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- [**US Patent 6,108,703**] Global Hosting System. Massachusetts Institute of Technology. (Leighton, F. and Lewin, D.) Filed May 18, 1999. Patented Aug. 22, 2000.
- [**US Patent 6,356,908**] *Automatic web page thumbnail generation*. IBM (Michael Wayne Brown, Kelvin Roderick Lawrence, Michael A. Paolini). Filed Jul. 30, 1999, Patented March 12, 2002.
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EXHIBIT B2

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Invalidity claim charts (from all defendants)

Letters re: claim construction exchanged by the parties

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Ran, Shirli -- Deposition Transcript, April 9, 2008

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Robins, Gabriel -- Deposition Transcript, May 30, 2008

Robins, Gabriel -- Declaration, May 16, 2008

Yarom, Yuval -- Deposition Transcript, November 12, 2008

EXHIBIT C

Brown (U.S. Patent No. 6,356,908)

The following claims are invalid as being anticipated by Brown

US Patent No. 6,356,908: *Automatic web page thumbnail generation*. (Michael Wayne Brown, Kelvin Roderick Lawrence, Michael A. Paolini). Filed Jul. 30, 1999, Issued March 12, 2002.

As set forth below, **US Patent 6,356,908** ('Brown') discloses each and every element claimed in the listed claims of the '904 patent.

| Claim # | The '904 Patent | Disclosure of Each Limitation in Brown¹² |
|----------------|---|---|
| 1. | A method for presenting Internet information to a user comprising: | "The invention relates generally to the field of computer software and, more specifically, to Internet related computer software. . . . it would be beneficial for Internet users to have a tool to enable them to make more informed decisions about which links to follow." [Brown at col. 1:23-25; 2:8-10] |
| | providing to a user a visual image of a web page containing at least one hyperlink; | "FIG. 8 shows a screen image for search results with thumbnails placed in-line near a respective link." [Brown at col. 2:48-49] See also Figure 8, <i>infra</i> . |
| | and at least partially concurrently providing a thumbnail visual image of the home page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an | <i>at least partially concurrently providing a thumbnail of the home page of at least one web site which is represented by said at least one hyperlink via the Internet:</i> "In one preferred embodiment, the thumbnails are displayed in-line (that is each thumbnail is placed below the preceding thumbnail in a vertical line) near the corresponding link on the currently displayed web page as illustrated in FIG. 8." |

¹ I reserve the right to revise this report and charts attached thereto concerning the invalidity of the asserted claims depending upon the Court's construction of the asserted claims, any findings as to the priority date of the asserted claims, and/or positions that Plaintiff or its expert witness(es) may take concerning claim interpretation, construction, infringement, and/or invalidity issues. It is also my understanding that certain discovery has yet to be conducted or completed in this matter and I further reserve the right to supplement my report should additional information become available.

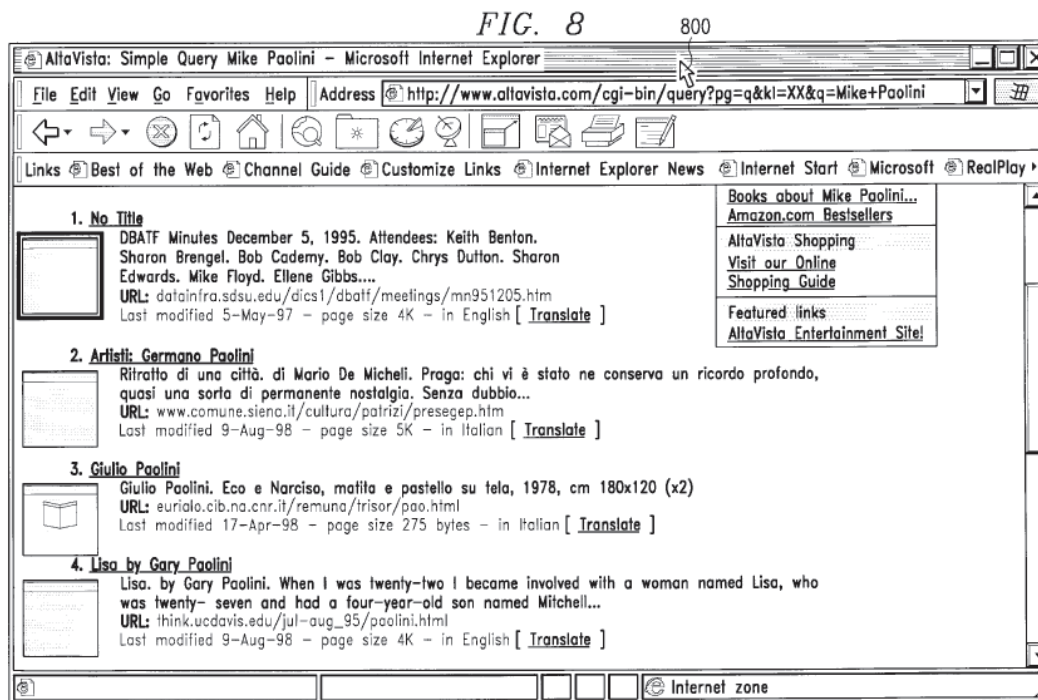
² The '904 Patent cites two patents by Brown: 6,356,908 (the "'908 Patent") and 6,665,838 (the "'838 Patent"). Only the '838 Patent is discussed in the '904 file history. The '908 Patent, charted here, was "made of record and not relied upon" but was "considered pertinent to applicant's disclosure." '904 Patent file history, Office Action dated March 8, 2004, page 11.

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image server that stores and provides said thumbnail visual image.

[Brown at col. 6:33-37]

Figures 8, 9, and 10 illustrate a result page described by Brown. Each figure shows embedded thumbnail images which were provided at least partially concurrently with the search result page.



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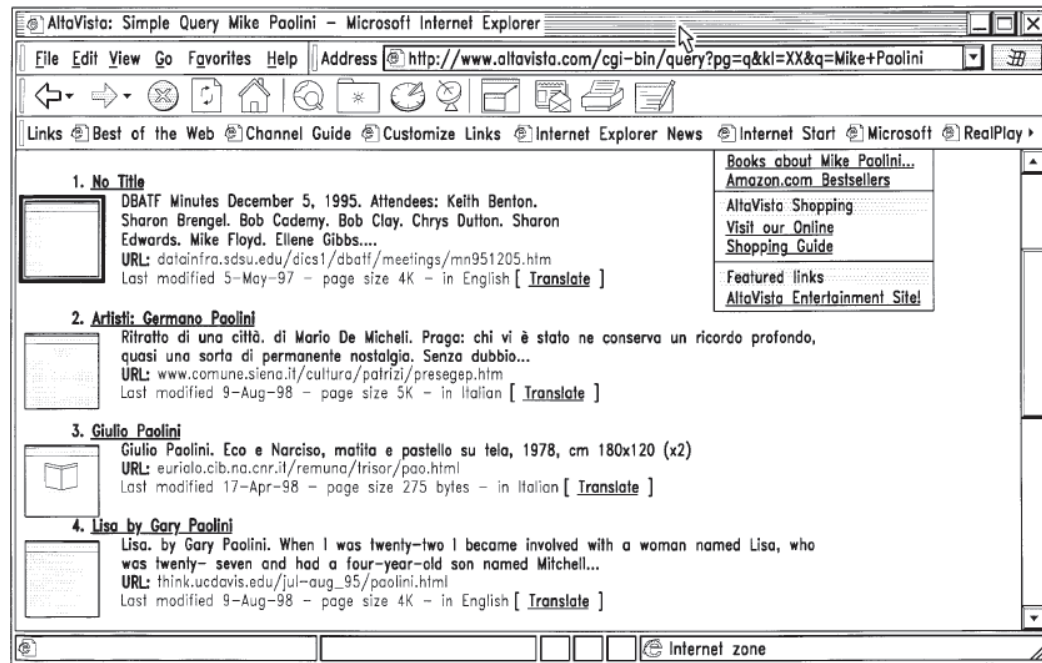


FIG. 9

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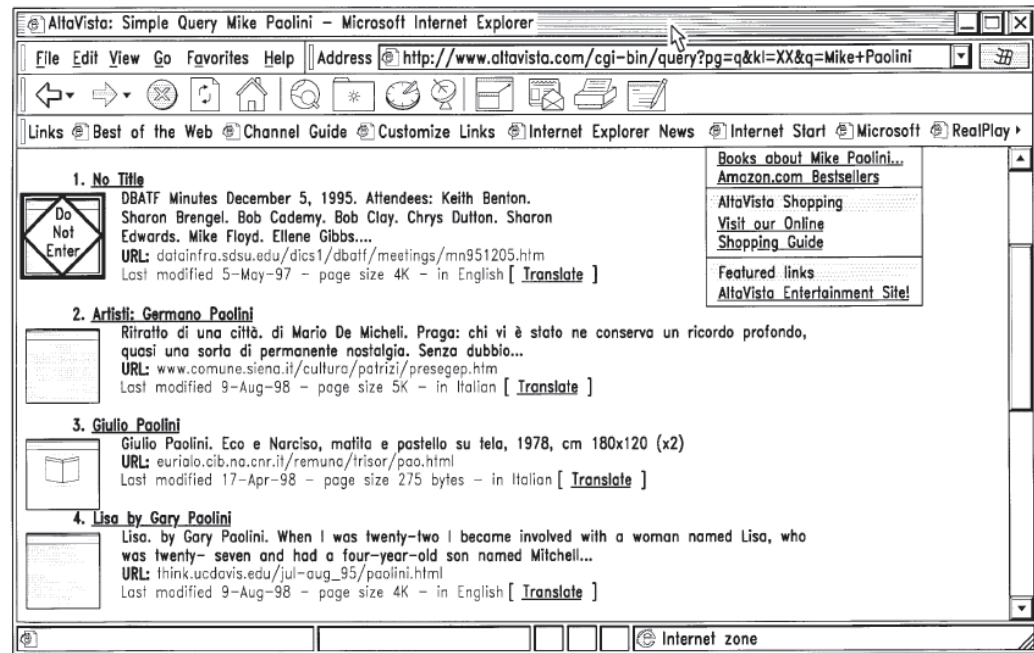


FIG. 10

Brown teaches displaying thumbnails of web pages, which would naturally include home pages as a subset.

Brown also teaches displaying the home page of at least one web site which is represented by said at least one hyperlink. See Brown at column 8, lines 16-27: “In another embodiment of the pop-up thumbnails, rather than generating and displaying thumbnails of the web pages associated with links, an icon representing the domain of that link could be generated and displayed next to the text representing the link. For example, if the domain is associated with Yahoo, then an icon displaying the Yahoo logo might be displayed next to the link. Furthermore, the icon could be assigned by the user or by the domain itself, and picked up automatically by the browser. This icon would then pop-up next to the link as the pointer moves over the link, just as the thumbnail does in an example depicted in FIG. 12.” (emphasis

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| | | <p>added).</p> <p>One of ordinary skill in the art would have understood that a thumbnail preview image of a top level domain could serve as an iconic representation of that domain.</p> <p><i>by employing an image server that stores and provides said thumbnail visual image:</i></p> <p>Brown describes three methods one could implement to produce iconic representations of web page links.</p> <p>First, Brown discloses employing a proxy server as an image server. The '908 Brown Patent discloses a "Thumbnail Assistant" that "intercepts and parses documents after communications 510 receives documents, but prior to processing by language interpretation 512. After parsing documents, thumbnail assistant 516 generates thumbnail images of linked pages to a loaded web page and displays these thumbnails to a user on a client machine. . . . Furthermore, <u>thumbnail assistant 516 could be utilized on a proxy server, wherein thumbnail assistant 516 pre-generates web pages on a web server prior to receipt by browser 500.</u> In this instance, which would be preferred for legacy browsers, the server would modify the stream sent to the user and place references to the thumbnails in that stream." (emphasis added) [Brown at col. 5: 17-52]</p> <p>The second method describes a server that sends these iconic representations, i.e., an image server: "Three methods might be implemented in order to produce these iconic representations of web page link. In the first case, this information could be embedded in the source. In the second instance, assuming the user recognizes the icon as a link, the user would then check the associated domain location, as opposed to a database (local or remote or both), and retrieve the icon. This would be the preferred method, given that the source would not have to be modified. <u>Finally, the third alternative method for producing these icons is to send the information via a separate protocol/communication with the server.</u>" [Brown at col. 8:28-38]</p> <p>The third method teaches storing thumbnail images for later use in a cache, which operates as an image server: "If the thumbnail option has been selected, then</p> |
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| | | <p>thumbnail assistant 516 parses the web page for links to other web pages (step 725). Thumbnail assistant 516 then checks the cache for linked pages and prefetches the linked pages that are not in the cache (step 730) using the prefetch mechanism associated with web browser 516. Thumbnail assistant 516 then generates thumbnails of each linked page that does not already have a thumbnail in the cache (step 735) and then <u>stores the newly generated thumbnails</u> in the cache (step 740).” (emphasis added) [Brown at col. 6:17-26]</p> <p>See also Figure 7:</p> |
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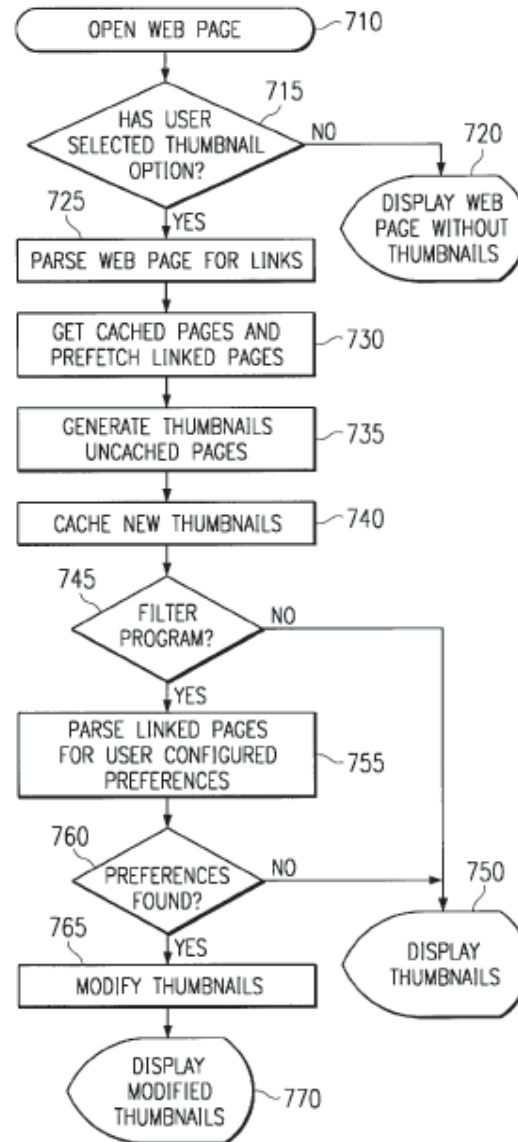


FIG. 7

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| 4. | A method according to claim 1 and wherein said thumbnail visual image is displayed within the visual image of said web page. | Figures 8, 9, and 10, <i>supra</i> , teach displaying the thumbnail visual image within the visual image of said web page. See also col. 6:33-37; 6:42-44; and Claim 3. |
| 5. | A method according to claim 4 and wherein said thumbnail visual image appears hovering over said hyperlink. | <p>Brown teaches displaying the thumbnail visual image hovering over a hyperlink: “Thumbnail assistant 516 monitors the pointer location (step 1130) to determine if the pointer is located over a link on the currently viewed web page (step 1135). If the pointer is not over a link, then thumbnail assistant 516 continues to monitor the pointer (step 1130). However, if the pointer is over an active area associated with a link (step 1135), then thumbnail assistant 516 displays the thumbnail associated with that link. Preferably, the thumbnail is displayed near the link. An example of a pop-up is illustrated in FIG. 12 where the pointer is over link number 2 and a thumbnail image of that linked page is displayed near the pointer.” [Brown at col. 7:57-67]</p> <p>See also, Figure 12 showing a thumbnail visual image hovering over a hyperlink:</p> |

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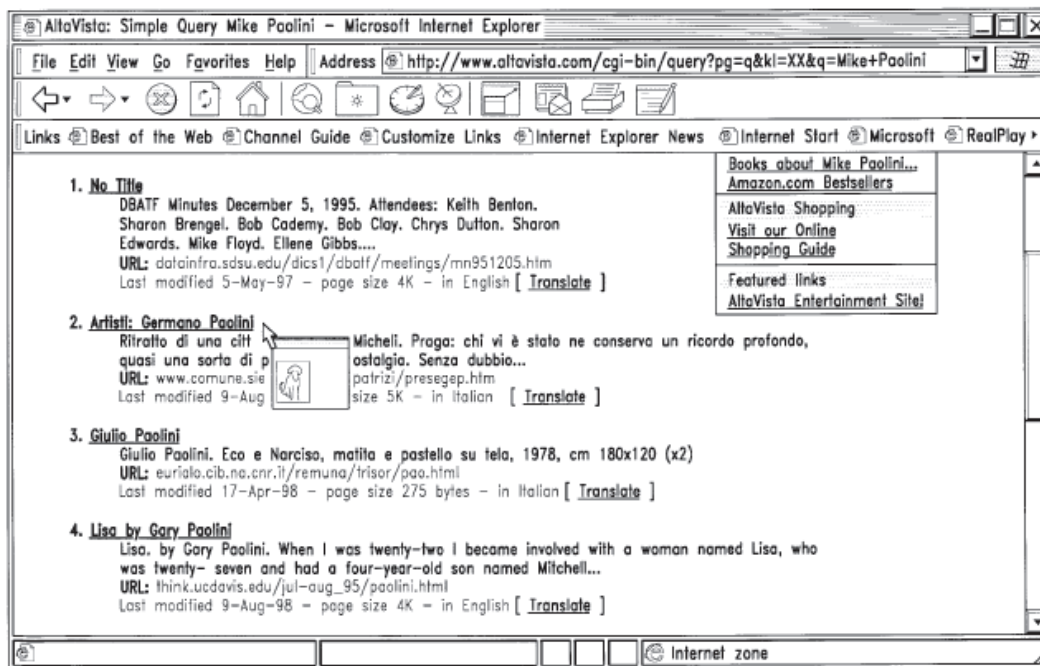


FIG. 12

6. A method according to claim 1 and wherein a plurality of thumbnail images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink.

Brown discloses applying a plurality of thumbnail images as described here:

“In one preferred embodiment, the thumbnails are displayed in-line (that is each thumbnail is placed below the preceding thumbnail in a vertical line) near the corresponding link on the currently displayed web page as illustrated in FIG. 8.” [Brown at col. 6:33-37]

Figures 8, 9, and 10 *supra* illustrate a result page described by Brown. Each figure shows a plurality of thumbnail images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink.

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| 7. | A method according to claim 1 and wherein said web page comprises an HTML page. | <p>Brown states that the web page comprises an HTML page.</p> <p>“Although the present invention has been described primarily with reference to HTML documents, the present invention applies to other document formats and markup languages as well. For example, such other markup languages include, but are not limited to, Extensible Markup Language (XML), Vector Markup Language (VML), Virtual Reality Markup Language (VRML), Dynamic Hypertext Markup Language (DHTML), and Extended Hypertext Markup Language (XHTML).” [Brown at col. 9:40-49]</p> <p>See also, Brown at Claim 7: “The method as recited in claim 1, wherein the markup language is a hypertext markup language.”</p> |
| 12. | <p>A method according to claim 1 and wherein said providing a-thumbnail visual image comprises:</p> <p>employing a web browser which interfaces via the Internet with a web server including visualization functionality.</p> | <p>“Furthermore, thumbnail assistant 516 could be utilized on a proxy server, wherein thumbnail assistant 516 pre-generates web pages on a web server prior to receipt by browser 500. In this instance, which would be preferred for legacy browsers, <u>the server would modify the stream sent to the user and place references to the thumbnails in that stream.</u>” [Brown at col. 5:46-52] (emphasis added)</p> |
| 13. | A method according to claim 12 and wherein said visualization functionality is operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web | <p>See Claim 12 analysis, <i>supra</i>, which is hereby incorporated by reference. One skilled in the art would understand ‘references to the thumbnails’ to include IMG tags, as defined in the HTML standard, specifying the path to be used by the browser to download the thumbnail image.</p> |

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| | browser, an annotated web page. | |
| 14. | A method according to claim 13 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page. | <p>“In one preferred embodiment, the thumbnails are displayed in-line (that is each thumbnail is placed below the preceding thumbnail in a vertical line) near the corresponding link on the currently displayed web page as illustrated in FIG. 8.” [Brown at col. 6:33-37]</p> <p>Figures 8, 9, and 10 <i>supra</i> illustrate a result page described by Brown. Each figure shows embedded thumbnail images which were provided at least partially concurrently with the search result page.</p> <p>Brown teaches displaying thumbnails of web pages, which would naturally include home pages as a subset.</p> <p>Brown also teaches displaying the home page of at least one web site which is represented by said at least one hyperlink. See Brown at column 8, lines 16-27: “In another embodiment of the pop-up thumbnails, <u>rather than generating and displaying thumbnails of the web pages associated with links, an icon representing the domain of that link could be generated and displayed next to the text representing the link.</u> For example, if the domain is associated with Yahoo, then an icon displaying the Yahoo logo might be displayed next to the link. Furthermore, the icon could be assigned by the user or by the domain itself, and picked up automatically by the browser. This icon would then pop-up next to the link as the pointer moves over the link, just as the thumbnail does in an example depicted in FIG. 12.” (emphasis added).</p> <p>One of ordinary skill in the art would have understood that a thumbnail preview image of a top level domain could serve as an iconic representation of that domain.</p> |
| 15. | A method according to claim 1 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 5 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| 18. | A system for presenting Internet information to a user comprising: | See Claim 1 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| | first functionality providing to a user a visual image of a web page containing at least one hyperlink; and | |
| | second functionality operative at least partially concurrently with said first functionality for providing a thumbnail visual image of the home page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image. | |
| 21. | A system according to claim 18 and wherein said thumbnail visual image is displayed within the visual image of said web page. | See Claim 4 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 22. | A system according to claim 21 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 5 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 23. | A system according to claim 18 and wherein a plurality of thumbnail visual images represented by at least one | See Claim 6 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| | hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | |
| 24. | A system according to claim 18 and wherein said web page comprises an HTML page. | See Claim 7 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 29. | A system according to claim 18 and wherein said second functionality comprises fourth functionality employing a web browser which interfaces via the Internet with a web server including visualization functionality. | See Claim 12 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 30. | A system according to claim 29 and wherein said visualization functionality is operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | See Claim 13 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 31. | A system according to claim 30 and wherein said annotated web | See Claim 14 analysis, <i>supra</i> , which is hereby incorporated by reference. |

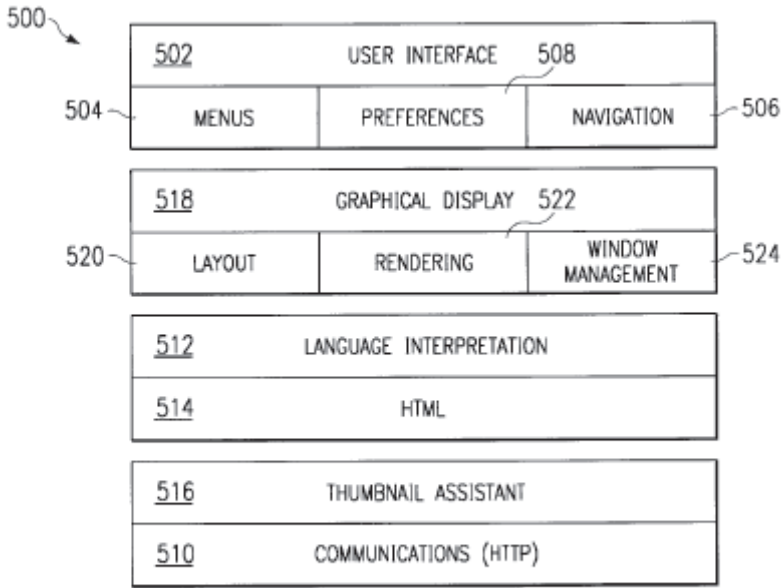
Brown (U.S. Patent No. 6,356,908)

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| | page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page. | |
| 32. | A system according to claim 18 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 15 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 35. | A method for presenting Internet information to a user comprising: | “The invention relates generally to the field of computer software and, more specifically, to Internet related computer software. . . . it would be beneficial for Internet users to have a tool to enable them to make more informed decisions about which links to follow.” [Brown at col. 1:23-25; 2:8-10] |
| | providing to a user a visual image of a web page containing at least one hyperlink; | “FIG. 8 shows a screen image for search results with thumbnails placed in-line near a respective link.” [Brown at col. 2:48-49] See also Figure 8, <i>infra</i> . |
| | and at least partially concurrently providing a thumbnail visual image of another web page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image, | <i>and at least partially concurrently providing a thumbnail of another web page of at least one web site which is represented by said at least one hyperlink via the Internet:</i> “In one preferred embodiment, the thumbnails are displayed in-line (that is each thumbnail is placed below the preceding thumbnail in a vertical line) near the corresponding link on the currently displayed web page as illustrated in FIG. 8.” [Brown at col. 6:33-37] Figures 8, 9, and 10 illustrate a result page described by Brown. Each figure shows embedded thumbnail images which were provided at least partially concurrently with the search result page. |

Brown (U.S. Patent No. 6,356,908)

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| | <p><i>by employing an image server that stores and provides said thumbnail visual image:</i></p> <p>Brown describes three methods one could implement to produce iconic representations of web page links. One of ordinary skill in the art would have understood that the third method describes a server that sends these iconic representations, i.e., an image server: “Three methods might be implemented in order to produce these iconic representations of web page link. In the first case, this information could be embedded in the source. In the second instance, assuming the user recognizes the icon as a link, the user would then check the associated domain location, as opposed to a database (local or remote or both), and retrieve the icon. This would be the preferred method, given that the source would not have to be modified. <u>Finally, the third alternative method for producing these icons is to send the information via a separate protocol/communication with the server.</u>” [Brown at col. 8:28-38]</p> <p>Additionally, Brown discloses employing a proxy server as an image server. The ‘908 Brown Patent discloses a “Thumbnail Assistant” that “intercepts and parses documents after communications 510 receives documents, but prior to processing by language interpretation 512. After parsing documents, thumbnail assistant 516 generates thumbnail images of linked pages to a loaded web page and displays these thumbnails to a user on a client machine. . . . Furthermore, <u>thumbnail assistant 516 could be utilized on a proxy server, wherein thumbnail assistant 516 pre-generates web pages on a web server prior to receipt by browser 500.</u> In this instance, which would be preferred for legacy browsers, the server would modify the stream sent to the user and place references to the thumbnails in that stream.” (emphasis added) [Brown at col. 5: 17-52]</p> <p>Brown additionally teaches storing thumbnail images for later use in a cache, which operates as an image server: “If the thumbnail option has been selected, then thumbnail assistant 516 parses the web page for links to other web pages (step 725). Thumbnail assistant 516 then checks the cache for linked pages and prefetches the linked pages that are not in the cache (step 730) using the prefetch mechanism associated with web browser 516. Thumbnail assistant 516 then generates thumbnails of each linked page that does not already have a thumbnail in the cache</p> |
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Brown (U.S. Patent No. 6,356,908)

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| | | <p>(step 735) and then stores the newly generated thumbnails in the cache (step 740).” (emphasis added) [Brown at col. 6:17-26]</p> <p>See also Figure 7, <i>supra</i>.</p> |
| | <p>said providing a thumbnail visual image comprising employing a web browser which interfaces via the Internet with a web server, separated from said image server, including visualization functionality, said visualization functionality being operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page.</p> | <p>Figure 5 discloses “one example of a browser program in which the present invention may be embodied.” [Brown col. 5:58-59]</p>  <p>The diagram, labeled FIG. 5, shows a browser program 500. It consists of several stacked blocks. The top block is the 'USER INTERFACE' 502, which contains sub-modules 'MENUS' 504, 'PREFERENCES' 506, and 'NAVIGATION' 508. Below this is the 'GRAPHICAL DISPLAY' 518, containing 'LAYOUT' 520, 'RENDERING' 522, and 'WINDOW MANAGEMENT' 524. The next block is 'LANGUAGE INTERPRETATION' 512, which contains 'HTML' 514. Below that is the 'THUMBNAIL ASSISTANT' 516. The bottom block is 'COMMUNICATIONS (HTTP)' 510.</p> <p style="text-align: center;"><i>FIG. 5</i></p> <p>This embodiment has a separate “Communications (HTTP)” block that receives documents, a separate “Thumbnail Assistant” that further processes the document to generate and display thumbnails, and a separate “Graphical Display” that presents web pages to the user as described below. One of ordinary skill in the art would have understood that the Communications block, part of the browser, was</p> |

Brown (U.S. Patent No. 6,356,908)

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| | | <p>communicating via HTTP, a standard internet protocol, with a web server.</p> <p><u>“Communications block 510 is the mechanism with which browser 500 receives documents and other resources from a network such as the Internet.”</u> [Brown col. 5:13-15]</p> <p>While Brown discloses using the Thumbnail Assistant as a browser plug-in, see col. 5:37-45, it also discloses using the Thumbnail Assistant on “a proxy server, wherein thumbnail assistant 516 pre-generates web pages on a web server prior to receipt by browser 500.” [Brown col. 5:46-49] In this alternate embodiment, Brown discloses an image server, i.e. the Thumbnail Assistant residing on its own server and providing images to the web browser, which is separate from the web server with which the Communications (HTTP) block interacts directly to download the underlying web page.</p> <p>Brown describes a scenario where 1) the web browser downloads a web page from the Internet, 2) the Thumbnail Assistant parses the web page when it is returned from the Internet, and 3) the Thumbnail Assistant provides the necessary thumbnail preview images to the browser (either by generating them or by loading them from a storage cache). See e.g. col. 5:13-32; col. 7:50-55. When the Thumbnail Assistant is operating as a proxy server, as disclosed at col. 5:46-49, it is operating as an image server.</p> |
| 38. | A method according to claim 35 and wherein said thumbnail visual image is displayed within the visual image of said web page. | See Claim 4 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 39. | A method according to claim 38 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 5 analysis, <i>supra</i> , which is hereby incorporated by reference. |

Brown (U.S. Patent No. 6,356,908)

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| 40. | A method according to claim 35 and wherein a plurality of thumbnail visual images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | See Claim 6 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 41. | A method according to claim 35 and wherein said web page comprises an HTML page. | See Claim 7 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 42. | A method according to claim 35 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page. | See Claim 13 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 45. | A method according to claim 35 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 15 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 46. | A system for presenting Internet information to a user comprising: | See Claim 35 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| | first functionality providing to a user a visual image of a web page containing at least one hyperlink; | |

Brown (U.S. Patent No. 6,356,908)

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| | and | |
| | second functionality operative at least partially concurrently with said first functionality for providing a thumbnail visual image of another web page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image, said second functionality comprising third functionality employing a web browser which interfaces via the Internet with a web server, separated from said image server, including visualization functionality, | |
| | said visualization functionality being operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | |
| 49. | A system according to claim 46 and wherein said thumbnail visual image is displayed within the | See Claim 38 analysis, <i>supra</i> , which is hereby incorporated by reference. |

Brown (U.S. Patent No. 6,356,908)

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| | visual image of said web page. | |
| 50. | A system according to claim 49 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 39 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 51. | A system according to claim 46 and wherein a plurality of thumbnail visual images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | See Claim 40 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 52. | A system according to claim 46 and wherein said web page comprises an HTML page. | See Claim 41 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 53. | A system according to claim 46 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page | See Claim 42 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 56. | A system according to claim 46 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 45 analysis, <i>supra</i> , which is hereby incorporated by reference. |

EXHIBIT D

Kraft (U.S. Patent No. 7,177,948)

The following claims are invalid as being anticipated by Kraft

US Patent 7,177,948. *Method and apparatus for enhancing online searching*. (Kraft; Reiner, Sundaresan; Neelakantan. Filed Nov. 18, 1999. Issued Feb. 13, 2007.

As set forth below, US Patent 7,177,948 ('Kraft') discloses each and every element claimed in the listed claims of the '904 patent.

| Claim # | The '904 Patent | Disclosure of Each Limitation in Kraft¹ |
|----------------|--|---|
| 1. | A method for presenting Internet information to a user comprising: | <p>"The present invention generally relates to online search technologies and document summarizations. More specifically, the present invention relates to a method and apparatus for efficiently processing search results obtained in response to a user query. . . . An important use of computers is the transfer of information over a network. Currently, the largest computer network in existence is the Internet, which, as is well known, is a worldwide interconnection of computer networks that communicate using a common protocol. . . . Today, finding information as easily and quickly as possible has become a crucial problem. The World Wide Web contains millions of documents spread over hundreds of thousands of computers throughout the world. Although hypertext links tie all these documents together, the distributed architecture of the Web produces an incoherent system that often makes it very difficult for users to locate documents. Search engines have become more and more important with the continuous growth of information in order to find and retrieve information from a large repository such as the Internet and databases."</p> <p>[Kraft – col. 1:7-67]</p> |
| | providing to a user a visual image of a web page containing at least | <p>"FIG 1 shows a typical result page 5 based on an online search. The result page 5 may contain hyperlinks 10 to external resources that matched the original query."</p> |

¹ I reserve the right to revise this report and charts attached thereto concerning the invalidity of the asserted claims depending upon the Court's construction of the asserted claims, any findings as to the priority date of the asserted claims, and/or positions that Plaintiff or its expert witness(es) may take concerning claim interpretation, construction, infringement, and/or invalidity issues. It is also my understanding that certain discovery has yet to be conducted or completed in this matter and I further reserve the right to supplement my report should additional information become available.s

Kraft (U.S. Patent No. 7,177,948)

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| | one hyperlink; | [Kraft – col. 4:63-65] |
| | and at least partially concurrently providing a thumbnail visual image of the home page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image. | <p><i>and at least partially concurrently providing a thumbnail of the home page of at least one web site which is represented by said at least one hyperlink via the Internet:</i></p> <p>“The result page 5 generally includes a short summary description 12 and a visual abstract (i.e., thumbnail) image 14 for each document found in the search.” [Kraft – col. 4:63-5:1]</p> <p>Figures 1 and 3 illustrate the result page described by Kraft. Each figure shows embedded thumbnail images which were provided at least partially concurrently with the search result page. Figure 1 additionally shows an embedded thumbnail image of the home page of the “www.infoseek.com” website, which was provided at least partially concurrently with the search result page.</p> |

Kraft (U.S. Patent No. 7,177,948)

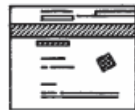




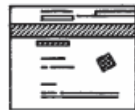




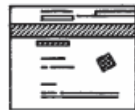




| | | <p style="text-align: center;">10</p> <table border="1"><thead><tr><th colspan="2">OTHER XML RESOURCES</th></tr></thead><tbody><tr><td>12</td><td><p>1) http://www.infoworld.com/cgi-bin/displaycommerce.pl?prophet.htm Rank 10%: Abstract: Market's love affair with Internet stocks won't end happily (InfoWorld) START DC Enhanced CODE Iframe for no Iframes Layers Capable Browsers Iflayer The Layer definition is located at the bottom of the</p></td><td></td></tr><tr><td>10</td><td><p>2) http://www.infoseek.com/ Rank 10%: Abstract: GO Network-Start Here- Header Begin Go branding and searchbox placement Member service links. Member Services New Membership Free-E-mail sign in BEGIN SEARCH INFOSEEK SEARCH Tips Advancedsearch START</p></td><td></td></tr><tr><td>10</td><td><p>3) http://www.wired.com/news/news/culture/story/10124.html Rank 8%: Abstract: Culture News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot end</p></td><td></td></tr><tr><td>12</td><td><p>4) http://www.wired.com/news/news/technology/story/16221.html Rank 8%: Abstract: Technology News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot e</p></td><td></td></tr><tr><td></td><td><p>5) http://www.wired.com/news/news/technology/story/12888.html</p></td><td></td></tr></tbody></table> <p style="text-align: right;">14</p> <p style="text-align: center;">5</p> | OTHER XML RESOURCES | | 12 | <p>1) http://www.infoworld.com/cgi-bin/displaycommerce.pl?prophet.htm Rank 10%: Abstract: Market's love affair with Internet stocks won't end happily (InfoWorld) START DC Enhanced CODE Iframe for no Iframes Layers Capable Browsers Iflayer The Layer definition is located at the bottom of the</p> |  | 10 | <p>2) http://www.infoseek.com/ Rank 10%: Abstract: GO Network-Start Here- Header Begin Go branding and searchbox placement Member service links. Member Services New Membership Free-E-mail sign in BEGIN SEARCH INFOSEEK SEARCH Tips Advancedsearch START</p> |  | 10 | <p>3) http://www.wired.com/news/news/culture/story/10124.html Rank 8%: Abstract: Culture News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot end</p> |  | 12 | <p>4) http://www.wired.com/news/news/technology/story/16221.html Rank 8%: Abstract: Technology News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot e</p> |  | | <p>5) http://www.wired.com/news/news/technology/story/12888.html</p> |  |
|---------------------|---|---|---------------------|--|----|---|---|----|---|---|----|---|---|----|--|--|--|---|---|
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| 10 | <p>2) http://www.infoseek.com/ Rank 10%: Abstract: GO Network-Start Here- Header Begin Go branding and searchbox placement Member service links. Member Services New Membership Free-E-mail sign in BEGIN SEARCH INFOSEEK SEARCH Tips Advancedsearch START</p> |  | | | | | | | | | | | | | | | | | |
| 10 | <p>3) http://www.wired.com/news/news/culture/story/10124.html Rank 8%: Abstract: Culture News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot end</p> |  | | | | | | | | | | | | | | | | | |
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| | <p>5) http://www.wired.com/news/news/technology/story/12888.html</p> |  | | | | | | | | | | | | | | | | | |

FIG.1

Kraft (U.S. Patent No. 7,177,948)



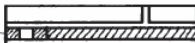


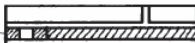


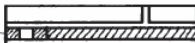
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| | | <table border="1"><tr><td>3) http://www.wired.com/news/news/culture/story/10124.html Rank 8%: Abstract: Culture News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot end</td><td></td></tr><tr><td>10 12 4) http://www.wired.com/news/news/technology/story/16221.html Rank 8%: Abstract: Technology News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot e</td><td></td></tr><tr><td>5) http://www.wired.com/news/news/technology/story/12888.html</td><td></td></tr></table> | 3) http://www.wired.com/news/news/culture/story/10124.html Rank 8%: Abstract: Culture News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot end |  | 10 12 4) http://www.wired.com/news/news/technology/story/16221.html Rank 8%: Abstract: Technology News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot e |  | 5) http://www.wired.com/news/news/technology/story/12888.html |  |
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| 5) http://www.wired.com/news/news/technology/story/12888.html |  | | | | | | | |

FIG.3

by employing an image server that stores and provides said thumbnail visual image:

Kraft discloses using a server that stores and provides said thumbnail visual image:

“Generation of the medium sized thumbnail (also called the medium sized visual abstract) is preferably done on the server side. The server preferably uses a caching mechanism to store the medium sized visual abstracts in a cache database so that users who later access the same document need not regenerate the medium sized abstract. The database may be programmed to store the medium sized visual abstract for a specific amount of time and then delete the abstract to conserve space.”
[Kraft – col. 4:50-58]

“The system is preferably implemented as a distributed client-server application as described below with respect to FIG. 4. This disclosed system is not limiting as

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| | | <p>other systems that perform the above disclosed method are also within the scope of the present invention. . . . On the client side of the system, the event handler 20 tracks actions of the user. . . . If a user moves the mouse pointer over a specific spot on a result item, or preferably over a (small) visual abstract 14, the event handler 20 triggers an event to the image requester 22 that contains the result item number/id (e.g., document number) and the URL of the requested documents. . . . <u>The image requester 22 requests the medium sized thumbnail 16 of a document from the server.</u> . . . The above-described client-side components and their basic functionalities are already integrated into most modern web browser technologies. These web browsers provide an application programming interface (API) for scripting languages to achieve the functionalities discussed above. . . . The <u>server-side components</u> interact closely to achieve the desired result. . . . The URL loader 26 looks to the local cache (i.e., cache database 30) by asking the cache manager 28 whether a medium sized thumbnail 16 for the requested document is already stored in the cache database 30. This saves time and increases the overall performance of the system. The system may also include additional component(s) that detect idle cycles of the system and then uses these to generate the medium sized thumbnail 16 in advance.” [Kraft – col. 5:39-6:21]</p> <p>“Finally, the cache manager 28 stores image thumbnails (i.e., visual abstracts) in a cache database 30 and keeps track of the rendered documents along with a time stamp for each resource. Before the time intensive process of rendering and image processing is initiated, the system first queries the cache manager 28 to determine whether the document is already processed. If so, then the cache manager 28 simply returns the visual abstract.” [Kraft col. 8:44-51]</p> <p>See also, Figure 4:</p> |
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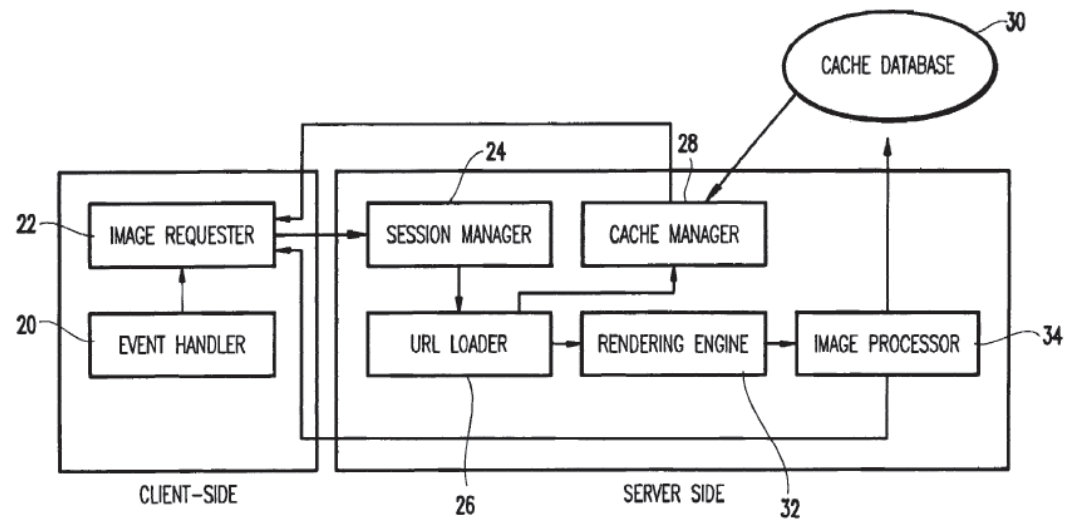
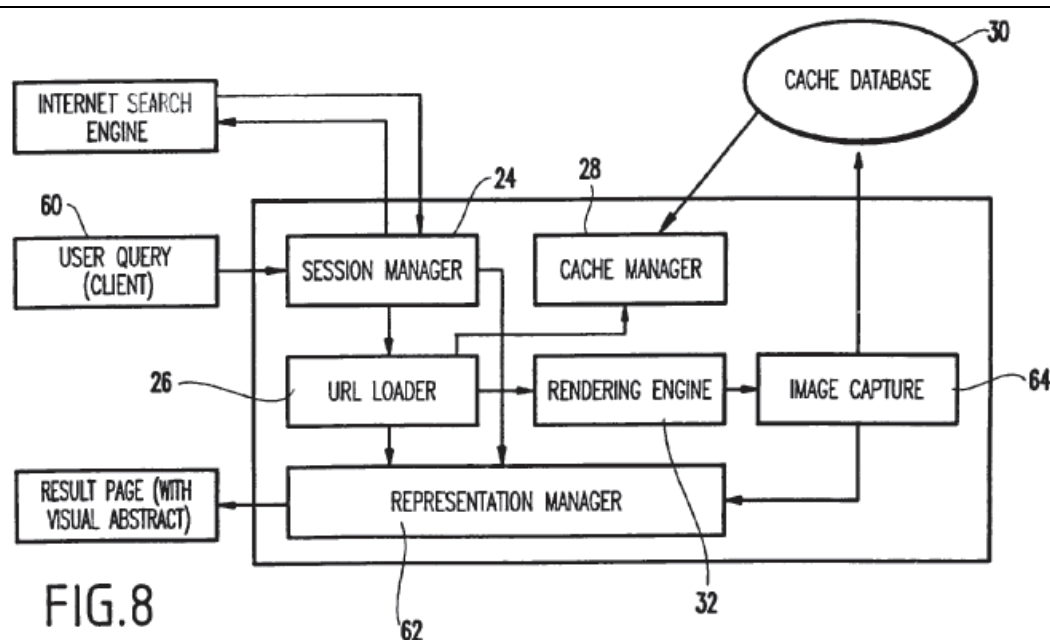


FIG.4

and Figure 8:

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“For performance reasons, the complete process can be enhanced using existing caching technologies, which is handled by the cache manager 28 as shown in FIG. 8.” [Kraft at col. 7:60-63]

See also, col. 7:43-45.

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| 4. | A method according to claim 1 and wherein said thumbnail visual image is displayed within the visual image of said web page. | Figures 1 and 3, <i>supra</i> , teach displaying the thumbnail visual image within the visual image of said web page. See also, col. 3:9-12 and col. 7:25-33. |
| 5. | A method according to claim 4 and wherein said thumbnail visual image appears hovering over said | Figure 2 shows a thumbnail visual image hovering over a hyperlink: |

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hyperlink.

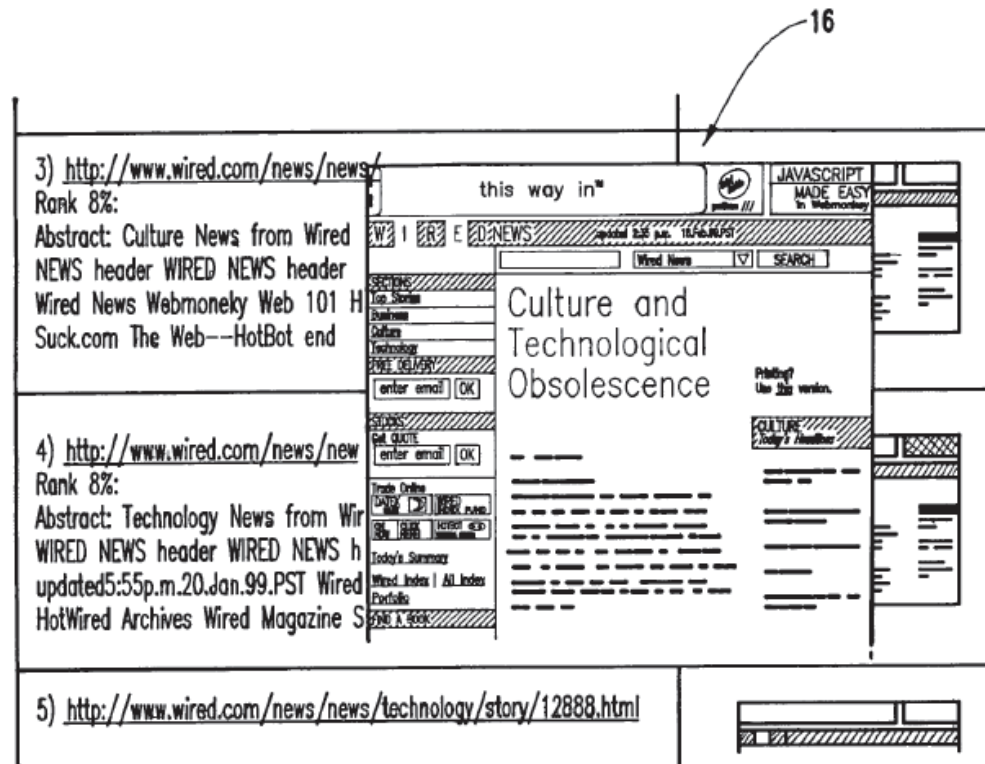


FIG. 2

See also, col. 3:12-14; 5:14-18, Claims 5, 6, and 7.

6.

A method according to claim 1 and wherein a plurality of thumbnail images represented by at least one hyperlink are

Kraft discloses applying a plurality of thumbnail images as disclosed in this claim as described here:

“The result page 5 generally includes a short summary description 12 and a visual abstract (i.e., thumbnail) image 14 for each document found in the search.” [Kraft –

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| | displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | col. 4:63-5:1] Figures 1 and 3 <i>supra</i> illustrate the result page described by Kraft. Each figure shows a plurality of embedded thumbnail images Figure 1 additionally shows that one of these embedded thumbnail image is of the home page of the “www.infoseek.com” website. |
| 7. | A method according to claim 1 and wherein said web page comprises an HTML page. | “In the Web environment, Web browsers are clients and Web documents reside on servers. Web clients and Web servers communicate using a protocol called ‘Hypertext Transfer Protocol’ (HTTP). A browser opens a connection to a server and initiates a request for a document. The server delivers the requested document, typically in the form of a text document coded in a standard Hypertext Markup Language (HTML) format.” [Kraft col. 1:28-35] A preferred embodiment of the ‘948 patent uses such a client-server system. [Kraft col. 5:39-41] |
| 12. | A method according to claim 1 and wherein said providing a thumbnail visual image comprises: employing a web browser which interfaces via the Internet with a web server including visualization functionality. | “The above-described client-side components and their basic functionalities are already integrated into most modern web browser technologies. The server-side components interact closely together to achieve the desired result. . . . The image is passed to the image requester 22 on the client side so that the medium sized thumbnail 16 can be displayed.” [Kraft col. 6:1-41 (describing web server visualization process)] See also, Figure 4, <i>supra</i> , illustrating a web server which includes visualization functionality. Kraft also describes the interaction between the browser and the server. “In the client-side of the system, the event handler 20 tracks actions of the user. Typically users use pointing devices, such as a mouse, to scroll and move through displayed results. These movements are evaluated by the event handler 20 . If a user |

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| | | <p>moves the mouse pointer over a specific spot on a result item, or preferably over a (small) visual abstract 14, the event handler 20 triggers an event to the image requester 22 that contains the result item number/id (e.g., document number) and the URL of the requested document. The event handler 20 may also be responsible for hiding or discarding the medium sized visual abstract 16 on the client side once it is no longer needed.</p> <p>The image requester 22 requests the medium sized thumbnail 16 of a document from the server. The request may be served either from a local cache on the client side [or] via a HTTP request to the server side. The image requester 22 obtains the medium sized thumbnail 16 and passes it to the web browser for display on a display screen [Kraft, at col. 5:46 to 5:64]</p> |
| 13. | A method according to claim 12 and wherein said visualization functionality is operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | <p>“The image thumbnail along with session information and URL is passed to the representation manager 62, which will construct the result page for the user and integrate the visual abstracts to the summary abstract listing.” [Kraft col. 8:40-43]</p> <p>Kraft discloses using event handlers and a standard API to control the behavior of the display of thumbnails. [Kraft at col. 5:39-6:5]. Kraft emphasizes that it is using a scripting language as a way to embed these commands in the above disclosure:</p> <p>“The above-described client-side components and their basic functionalities are already integrated into most modern web browser technologies. These web browsers provide an application programming interface (API) for scripting languages to achieve the functionalities discussed above.” [Kraft at col. 6:1 to 6:5]</p> <p>See also, Figure 8, <i>supra</i>, detailing the process of creating a result page containing thumbnail visual abstracts.</p> |
| 14. | A method according to claim 13 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites | <p>Figures 1 and 3 illustrate the result page described by Kraft. Each figure shows embedded thumbnail images with the search result page. Figure 1 additionally shows an embedded thumbnail image of the home page of the “www.infoseek.com” website, which was provided at least partially concurrently with the search result</p> |

Kraft (U.S. Patent No. 7,177,948)

| | | |
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| | referenced by hyperlinks contained in the web page. | page. |
| 15. | A method according to claim 1 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 5 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 18. | A system for presenting Internet information to a user comprising: | See Claim 1 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| | first functionality providing to a user a visual image of a web page containing at least one hyperlink; and | |
| | second functionality operative at least partially concurrently with said first functionality for providing a thumbnail visual image of the home page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image. | |
| 21. | A system according to claim 18 and wherein said thumbnail visual image is displayed within the visual image of said web page. | See Claim 4 analysis, <i>supra</i> , which is hereby incorporated by reference. |

Kraft (U.S. Patent No. 7,177,948)

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| 22. | A system according to claim 21 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 5 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 23. | A system according to claim 18 and wherein a plurality of thumbnail visual images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | See Claim 6 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 24. | A system according to claim 18 and wherein said web page comprises an HTML page. | See Claim 7 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 29. | A system according to claim 18 and wherein said second functionality comprises fourth functionality employing a web browser which interfaces via the Internet with a web server including visualization functionality. | See Claim 12 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 30. | A system according to claim 29 and wherein said visualization functionality is operative to embed commands to the web browser to | See Claim 13 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| | download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | |
| 31. | A system according to claim 30 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page. | See Claim 14 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 32. | A system according to claim 18 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 15 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 35. | A method for presenting Internet information to a user comprising: | “The present invention generally relates to online search technologies and document summarizations. More specifically, the present invention relates to a method and apparatus for efficiently processing search results obtained in response to a user query. . . . An important use of computers is the transfer of information over a network. Currently, the largest computer network in existence is the Internet, which, as is well known, is a worldwide interconnection of computer networks that communicate using a common protocol. . . . Today, finding information as easily and quickly as possible has become a crucial problem. The World Wide Web contains millions of documents spread over hundreds of thousands of computers throughout the world. Although hypertext links tie all these documents together, the distributed architecture of the Web produces an incoherent system that often makes it very difficult for users to locate documents. Search engines have become more and more important with the continuous growth of information in order to find and retrieve information from a large repository such as the Internet and databases.” |

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| | | [Kraft – col. 1:7-67] |
| | providing to a user a visual image of a web page containing at least one hyperlink; | “FIG 1 shows a typical result page 5 based on an online search. The result page 5 may contain hyperlinks 10 to external resources that matched the original query.” [Kraft – col. 4:63-65] |
| | and at least partially concurrently providing a thumbnail visual image of another web page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image, | <p><i>and at least partially concurrently providing a thumbnail of another web page of at least one web site which is represented by said at least one hyperlink via the Internet:</i></p> <p>“The result page 5 generally includes a short summary description 12 and a visual abstract (i.e., thumbnail) image 14 for each document found in the search.” [Kraft – col. 4:63-5:1]</p> <p>Figures 1 and 3 illustrate the result page described by Kraft. Each figure shows embedded thumbnail images of web pages which were provided at least partially concurrently with the search result page.</p> |

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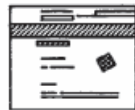




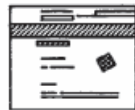




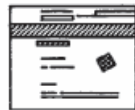




| | | <p style="text-align: center;">10</p> <table border="1"><thead><tr><th colspan="2">OTHER XML RESOURCES</th></tr></thead><tbody><tr><td>12</td><td><p>1) http://www.infoworld.com/cgi-bin/displaycommerce.pl?prophet.htm Rank 10%: Abstract: Market's love affair with Internet stocks won't end happily (InfoWorld) START DC Enhanced CODE Iframe for no Iframes Layers Capable Browsers Iflayer The Layer definition is located at the bottom of the</p></td><td></td></tr><tr><td>10</td><td><p>2) http://www.infoseek.com/ Rank 10%: Abstract: GO Network-Start Here- Header Begin Go branding and searchbox placement Member service links. Member Services New Membership Free-E-mail sign in BEGIN SEARCH INFOSEEK SEARCH Tips Advancedsearch START</p></td><td></td></tr><tr><td>10</td><td><p>3) http://www.wired.com/news/news/culture/story/10124.html Rank 8%: Abstract: Culture News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot end</p></td><td></td></tr><tr><td>12</td><td><p>4) http://www.wired.com/news/news/technology/story/16221.html Rank 8%: Abstract: Technology News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot e</p></td><td></td></tr><tr><td></td><td><p>5) http://www.wired.com/news/news/technology/story/12888.html</p></td><td></td></tr></tbody></table> <p style="text-align: right;">14</p> <p style="text-align: center;">5</p> | OTHER XML RESOURCES | | 12 | <p>1) http://www.infoworld.com/cgi-bin/displaycommerce.pl?prophet.htm Rank 10%: Abstract: Market's love affair with Internet stocks won't end happily (InfoWorld) START DC Enhanced CODE Iframe for no Iframes Layers Capable Browsers Iflayer The Layer definition is located at the bottom of the</p> |  | 10 | <p>2) http://www.infoseek.com/ Rank 10%: Abstract: GO Network-Start Here- Header Begin Go branding and searchbox placement Member service links. Member Services New Membership Free-E-mail sign in BEGIN SEARCH INFOSEEK SEARCH Tips Advancedsearch START</p> |  | 10 | <p>3) http://www.wired.com/news/news/culture/story/10124.html Rank 8%: Abstract: Culture News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot end</p> |  | 12 | <p>4) http://www.wired.com/news/news/technology/story/16221.html Rank 8%: Abstract: Technology News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot e</p> |  | | <p>5) http://www.wired.com/news/news/technology/story/12888.html</p> |  |
|---------------------|---|---|---------------------|--|----|---|---|----|---|---|----|---|---|----|--|--|--|---|---|
| OTHER XML RESOURCES | | | | | | | | | | | | | | | | | | | |
| 12 | <p>1) http://www.infoworld.com/cgi-bin/displaycommerce.pl?prophet.htm Rank 10%: Abstract: Market's love affair with Internet stocks won't end happily (InfoWorld) START DC Enhanced CODE Iframe for no Iframes Layers Capable Browsers Iflayer The Layer definition is located at the bottom of the</p> |  | | | | | | | | | | | | | | | | | |
| 10 | <p>2) http://www.infoseek.com/ Rank 10%: Abstract: GO Network-Start Here- Header Begin Go branding and searchbox placement Member service links. Member Services New Membership Free-E-mail sign in BEGIN SEARCH INFOSEEK SEARCH Tips Advancedsearch START</p> |  | | | | | | | | | | | | | | | | | |
| 10 | <p>3) http://www.wired.com/news/news/culture/story/10124.html Rank 8%: Abstract: Culture News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot end</p> |  | | | | | | | | | | | | | | | | | |
| 12 | <p>4) http://www.wired.com/news/news/technology/story/16221.html Rank 8%: Abstract: Technology News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot e</p> |  | | | | | | | | | | | | | | | | | |
| | <p>5) http://www.wired.com/news/news/technology/story/12888.html</p> |  | | | | | | | | | | | | | | | | | |

FIG.1

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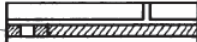
| | | |
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| | <p>3) http://www.wired.com/news/news/culture/story/10124.html Rank 8%: Abstract: Culture News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot end</p> |  |
| <p>10</p> <p>12</p> | <p>4) http://www.wired.com/news/news/technology/story/16221.html Rank 8%: Abstract: Technology News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot e</p> |  |
| | <p>5) http://www.wired.com/news/news/technology/story/12888.html</p> |  |

FIG.3

by employing an image server that stores and provides said thumbnail visual image:

Kraft discloses using a server that stores and provides said thumbnail visual image:

“Generation of the medium sized thumbnail (also called the medium sized visual abstract) is preferably done on the server side. The server preferably uses a caching mechanism to store the medium sized visual abstracts in a cache database so that users who later access the same document need not regenerate the medium sized abstract. The database may be programmed to store the medium sized visual abstract for a specific amount of time and then delete the abstract to conserve space.”
[Kraft – col. 4:50-58]

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| | | <p>“The system is preferably implemented as a distributed client-server application as described below with respect to FIG. 4. This disclosed system is not limiting as other systems that perform the above disclosed method are also within the scope of the present invention. . . . On the client side of the system, the event handler 20 tracks actions of the user. . . . If a user moves the mouse pointer over a specific spot on a result item, or preferably over a (small) visual abstract 14, the event handler 20 triggers an event to the image requester 22 that contains the result item number/id (e.g., document number) and the URL of the requested documents. . . . <u>The image requester 22 requests the medium sized thumbnail 16 of a document from the server.</u> . . . The above-described client-side components and their basic functionalities are already integrated into most modern web browser technologies. These web browsers provide an application programming interface (API) for scripting languages to achieve the functionalities discussed above. . . . The <u>server-side components</u> interact closely to achieve the desired result. . . . The URL loader 26 looks to the local cache (i.e., cache database 30) by asking the cache manager 28 whether a medium sized thumbnail 16 for the requested document is already stored in the cache database 30. This saves time and increases the overall performance of the system. The system may also include additional component(s) that detect idle cycles of the system and then uses these to generate the medium sized thumbnail 16 in advance.” [Kraft – col. 5:39-6:21]</p> <p>“Finally, the cache manager 28 stores image thumbnails (i.e., visual abstracts) in a cache database 30 and keeps track of the rendered documents along with a time stamp for each resource. Before the time intensive process of rendering and image processing is initiated, the system first queries the cache manager 28 to determine whether the document is already processed. If so, then the cache manager 28 simply returns the visual abstract.” [Kraft col. 8:44-51]</p> <p>See also, Figure 4:</p> |
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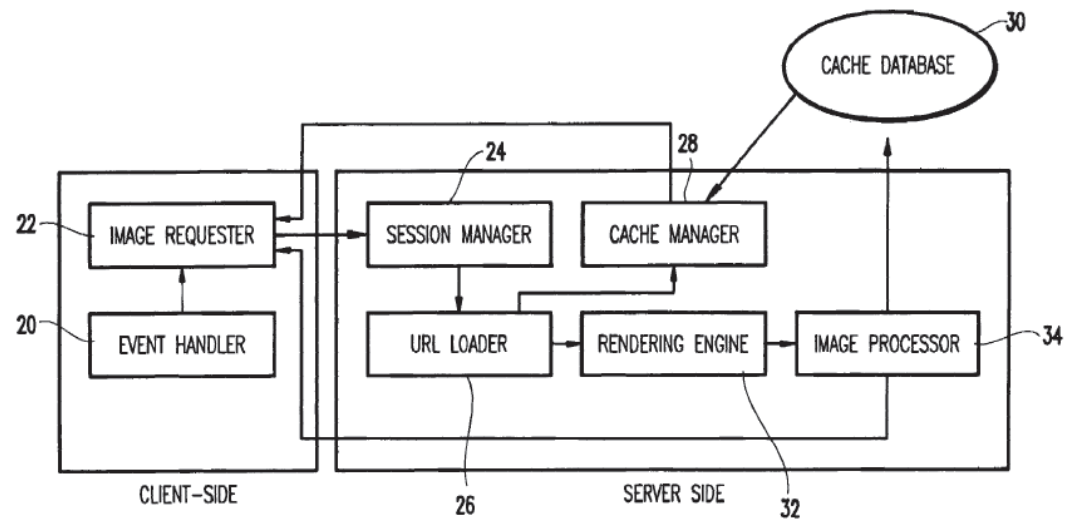
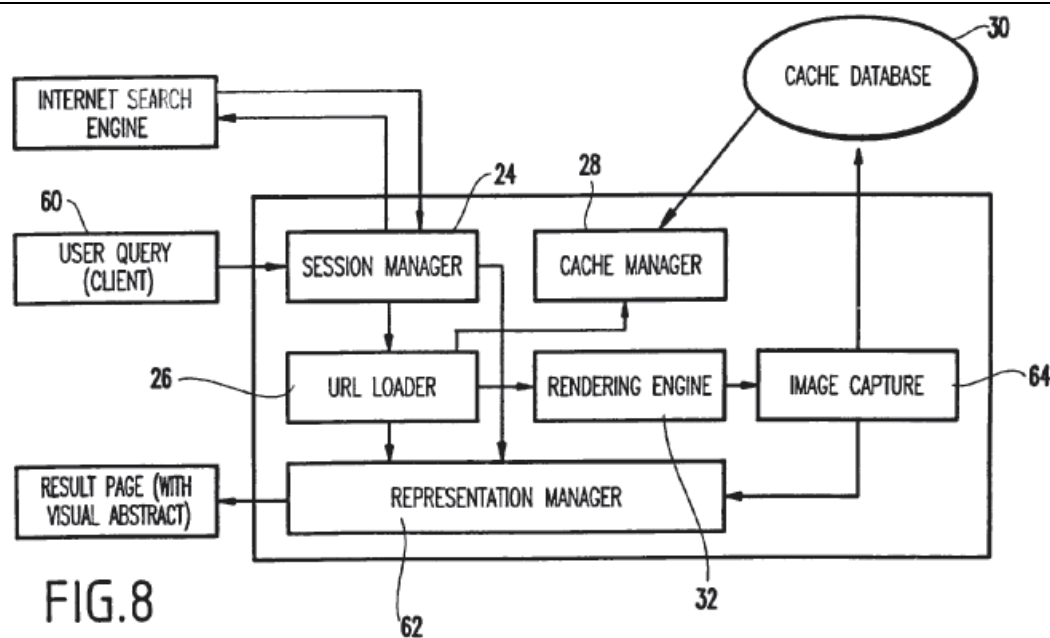


FIG.4

and Figure 8:

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“For performance reasons, the complete process can be enhanced using existing caching technologies, which is handled by the cache manager 28 as shown in FIG. 8.” [Kraft at col. 7:60-63]

See also, col. 7:43-45.

said providing a thumbnail visual image comprising employing a web browser which interfaces via the Internet with a web server, separated from said image server, including visualization functionality, said visualization functionality being operative to embed commands to the web

said providing a thumbnail visual image comprising employing a web browser which interfaces via the Internet with a web server:

“The above-described client-side components and their basic functionalities are already integrated into most modern web browser technologies. . . . The server-side components interact closely together to achieve the desired result.” [Kraft col. 6:17]

See also, Figure 4, *supra*, illustrating a web server which includes visualization

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| | <p>browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page.</p> | <p>functionality.</p> <p><i>separated from said image server:</i></p> <p>Kraft discloses an image server (an element of the Kraft preview system) that is separate from the web server (the source of the search engine results):</p> <p>“This system according to the present invention preferably works together with a text based search engine. <u>The user submits a query to the search engine.</u> The <u>system analyzes the search results and generates a visual abstract</u> of the original document. Then, the rendered document is converted to an image format (JPEG, TIFF) and the image is resized to a smaller size (i.e., a thumbnail size). The rendering and image converting process is a time consuming task, which can be done off-line for performance reasons. As a result, the modified result page of the search engine contains visual abstracts (thumbnails) of the documents rather than text based summaries.” (emphasis added) [Kraft col. 7:46-57]</p> <p>See also, Figure 8, <i>supra</i>, showing the User Query (60) being routed to the Internet Search Engine via the Session Manager (24), while a separate Cache Manager (28) stores and serves images:</p> <p>“For performance reasons, the URL loader 26 asks the cache manager 28 whether the desired URL was previously loaded. In this case it can directly retrieve the rendered and captured image from the cache manager 28 and pass the visual abstract to the representation manager 62. This saves a lot of work and time and therefore speeds up response time. . . . [T]he cache manager 28 stores image thumbnails (i.e., visual abstracts) in a cache database 30 and keeps tracks of the rendered documents along with a time stamp for each resource. Before the time intensive process of rendering and image processing is initiated, the system first queries the cache manager 28 to determine whether the document is already processed. If so, then the cache manager 28 simply returns the visual abstract.” [Kraft col. 8:17-51]</p> <p><i>including visualization functionality, said visualization functionality being operative to embed commands to the web browser to download, via said image server,</i></p> |
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| | | <p><i>thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page:</i></p> <p>“The image thumbnail along with session information and URL is passed to the representation manager 62, which will construct the result page for the user and integrate the visual abstracts to the summary abstract listing.” [Kraft col. 8:40-43]</p> |
| 38. | A method according to claim 35 and wherein said thumbnail visual image is displayed within the visual image of said web page. | See Claim 4 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 39. | A method according to claim 38 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 5 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 40. | A method according to claim 35 and wherein a plurality of thumbnail visual images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | See Claim 6 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 41. | A method according to claim 35 and wherein said web page comprises an HTML page. | See Claim 7 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 42. | A method according to claim 35 and wherein said annotated web page includes the web page having within it thumbnail visual images | See Claim 13 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| | of homepages of web sites referenced by hyperlinks contained in the web page. | |
| 45. | A method according to claim 35 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 15 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 46. | A system for presenting Internet information to a user comprising: | See Claim 35 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| | first functionality providing to a user a visual image of a web page containing at least one hyperlink; and | |
| | second functionality operative at least partially concurrently with said first functionality for providing a thumbnail visual image of another web page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image, said second functionality comprising third functionality employing a web browser which interfaces via the Internet with a web server, separated from said image server, including visualization | |

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| | functionality, | |
| | said visualization functionality being operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | |
| 49. | A system according to claim 46 and wherein said thumbnail visual image is displayed within the visual image of said web page. | See Claim 38 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 50. | A system according to claim 49 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 39 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 51. | A system according to claim 46 and wherein a plurality of thumbnail visual images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | See Claim 40 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 52. | A system according to claim 46 and wherein said web page | See Claim 41 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| | comprises an HTML page. | |
| 53. | A system according to claim 46 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page | See Claim 42 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 56. | A system according to claim 46 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 45 analysis, <i>supra</i> , which is hereby incorporated by reference. |

EXHIBIT E

Schmid – *Web Representation with Dynamic Thumbnails***The following claims are invalid as being anticipated by Schmid**



Schmid, Stefan, *Web Representation with Dynamic Thumbnails*, IEEE YUFORICS '98 Conference, June 16-18, 1998.

As set forth below, Schmid discloses each and every element claimed in the listed claims of the '904 patent.

| Claim # | The '904 Patent | Disclosure of Each Limitation in Schmid¹ |
|----------------|---|--|
| 1. | A method for presenting Internet information to a user comprising: | "[W]e propose a novel online service to provide up-to-date thumbnails of any Web pages. Online provided and dynamically generated thumbnails open new ways to represent the Web and enhance Web designers potentialities." [Schmid, Abstract] |
| | providing to a user a visual image of a web page containing at least one hyperlink; | Schmid teaches displaying a web page containing hyperlinks. "In order to enhance Web representation, we suggest to improve the power of expression of hyper-links. Text-only links, if well chosen, usually give information about the page content. Thumbnail links, where the image represents a miniature of the referenced Web page, contain information of the page layout and the content. Combining both techniques the user may perceive a maximum of information regarding content and layout. See figure 1 as an example." [Schmid at 1] |

¹ I reserve the right to revise this report and charts attached thereto concerning the invalidity of the asserted claims depending upon the Court's construction of the asserted claims, any findings as to the priority date of the asserted claims, and/or positions that Plaintiff or its expert witness(es) may take concerning claim interpretation, construction, infringement, and/or invalidity issues. It is also my understanding that certain discovery has yet to be conducted or completed in this matter and I further reserve the right to supplement my report should additional information become available.

Schmid – *Web Representation with Dynamic Thumbnails*

| | | |
|--|--|--|
| | | <div><div><div><div>Text</div><div>Porsche 911 TC - Data Sheet Information about Content: yes Layout: no</div></div><div>VS</div><div><div>Thumbnail</div><div> Information about Content: little Layout: yes</div></div><div>VS</div><div><div>Text & Thumbnail</div><div> Porsche 911 TC - Data Sheet Information about Content: yes Layout: yes</div></div></div></div> <div><p>Figure 1: Textual links together with thumbnails contain information on both content and layout of linked pages</p><p>See also, Figure 2, which “shows how clients, the Thumbnail Server, the rendering engine, and Web servers or proxies are interrelated,” and includes a web browser with hyperlinks. [Schmid at 3.1]</p></div> |
|--|--|--|

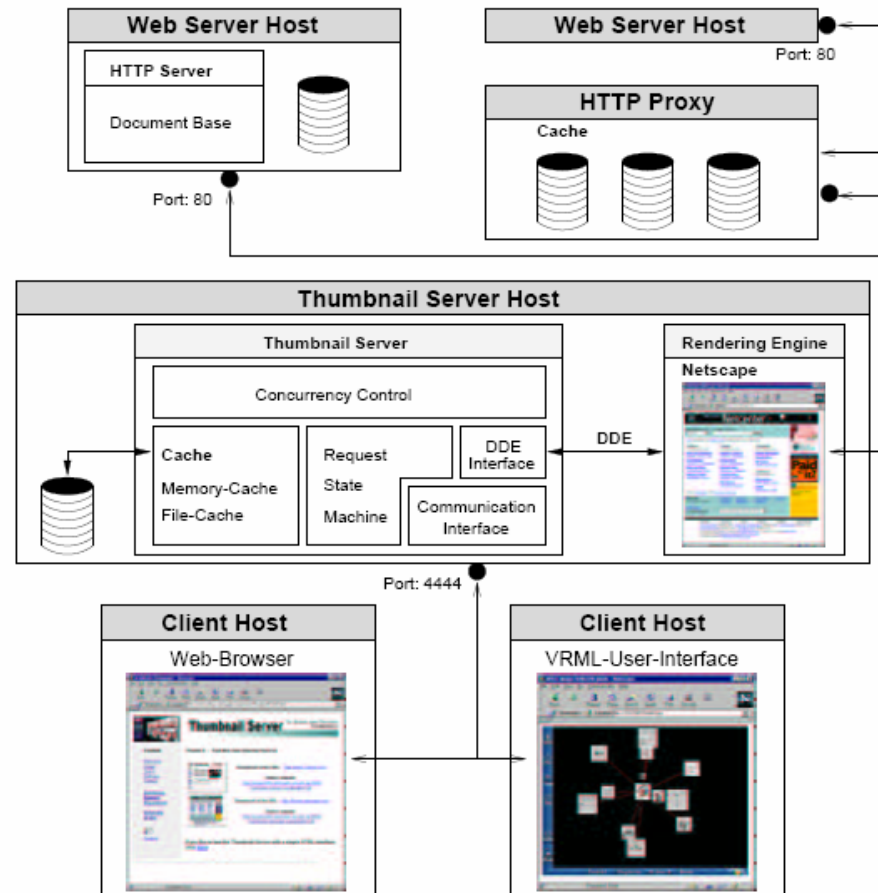

Schmid – *Web Representation with Dynamic Thumbnails*

Figure 2: Thumbnail Server Architecture

The exact web page shown in the Web Browser within the Client Host in Figure 2 was also available on the World Wide Web; a screen snapshot of this page as retrieved via the Internet archive is shown below. I will refer to this image as 'Snapshot 1'.

Schmid – Web Representation with Dynamic Thumbnails

| | |
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| | <div data-bbox="808 190 1833 946"></div> <div data-bbox="808 982 1898 1089"><p>In addition, in Figure 3, Schmid teaches displaying thumbnail visual images amongst other images and representations of hyperlinks, where thumbnails are 3-D objects in a three-dimensional space. .</p></div> |
|--|---|

Schmid – Web Representation with Dynamic Thumbnails

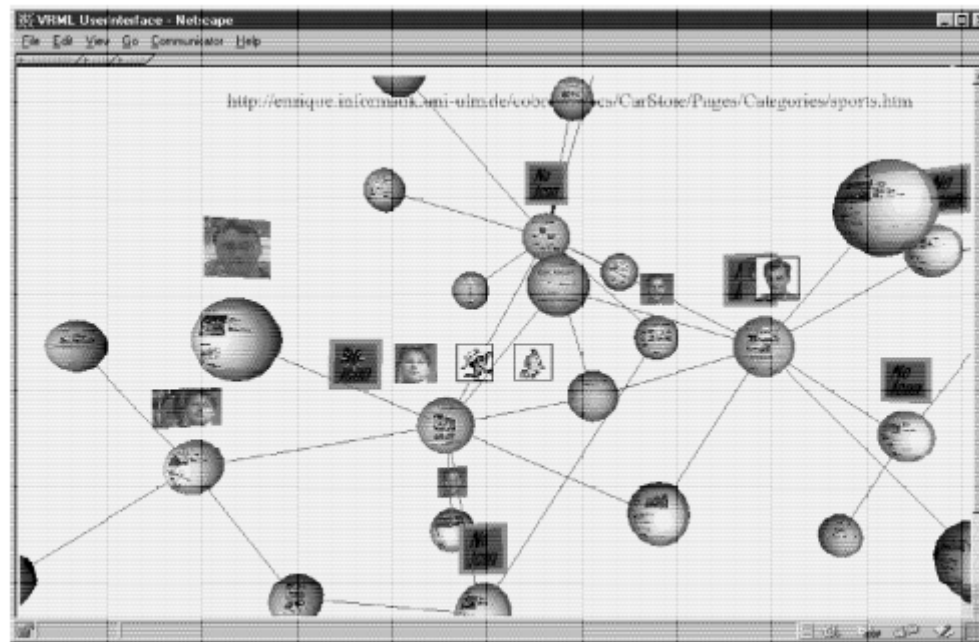


Figure 3: CoBrow VRML User Interface

and at least partially concurrently providing a thumbnail visual image of the home page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image.

and at least partially concurrently providing: See Schmid at Fig. 1 and Fig. 2, *supra* (displaying thumbnail previews as in-line images that would load along with the web page).

a thumbnail visual image of the home page of at least one web site which is represented by said at least one hyperlink via the Internet:

Schmid teach the use of thumbnails of "any Web pages," which certainly includes homepages as a subset. Further, Schmid discloses sending a "request" URL from the client application to the Thumbnail Server that includes a URL variable: "The request format is designed to be HTTP compliant. Each request is encoded as an HTTP-GET [4] request. The general request syntax (in EBNF notation) is as follows: request ::= http://<server name>[:<port>]/?url=<url>{&<options>}.".

Schmid – *Web Representation with Dynamic Thumbnails*

| | | |
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| | | <p>Along with his accompanying discussion of URL parsing in Section 3.2, this suggests several methods that include displaying a home page. First, the EBNF notation specifies that the request comprises a url sent to the server specified in <server name>; this url would encompass URLs to a home page. An example of this is shown in Snapshot-1, <i>supra</i>. In this example, the second requested URL is home.netscape.com, clearly a page that Netscape considered to be its home page. The first requested URL is www.cobrow.com, a front page to the domain. Second, this protocol detaches the URL variable requested from the URL of the link the client browser is representing via a thumbnail, i.e., the client may request <i>any</i> URL from the thumbnail server. Consequently, one of ordinary skill in the art would have understood (for example) that the thumbnail could be the URL of a home page while the link was to an interior page.</p> <p><i>by employing an image server that stores and provides said thumbnail visual image:</i> Schmid discloses an image server and how it interacts with clients and other server. He calls a thumbnail server / thumbnail service. “The general architecture of the <i>Thumbnail Service</i> is based on a client-server model. Clients, such as ordinary Web browsers, Java applets, VRML programs, or other stand-alone programs, access the Thumbnail Server via the Internet protocol TCP/IP. A client requests thumbnails of arbitrary Web pages. After the request is received, the server first checks its memory and disk caches. If the requested Web page thumbnail is already rendered and not expired, it is immediately sent back to the client. Otherwise, the server loads the requested Web page and renders the image.” [Schmid at 3.1] See also Fig. 2, <i>supra</i> (illustrating a “Thumbnail Server Host” and a “Web Server Host”).</p> |
| 4. | A method according to claim 1 and wherein said thumbnail visual image is displayed within the visual image of said web page. | See Schmid at Fig. 2, <i>supra</i> , the client hosts at the bottom which show displaying the thumbnail image within the visual image of the web page. Also see |
| 6. | A method according to claim 1 and wherein a plurality of thumbnail images represented by at least one hyperlink are | As shown in Figures 2 and 3 <i>supra</i> , Schmid discloses a plurality of thumbnail images as described here. |

Schmid – *Web Representation with Dynamic Thumbnails*

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| | displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | |
| 7. | A method according to claim 1 and wherein said web page comprises an HTML page. | See Fig. 2, <i>supra</i> , showing the “Client Host” displaying an HTML page loaded in a “Web-Browser.” Schmid in Section 3.3 also states that his method uses external web browsers that obey the HTML standard: “No matter what new HTML features (e.g. frames, layers) are developed, we do not have to adjust our rendering engine.” Additionally, at the time of the alleged invention, web pages were almost always written in HTML. |
| 12. | A method according to claim 1 and wherein said providing a thumbnail visual image comprises: employing a web browser which interfaces via the Internet with a web server including visualization functionality. | See Fig. 2, <i>supra</i> , showing the “Client Host” displaying an HTML page loaded in a “Web-Browser.” Additionally: “The Thumbnail Server and the client applications use the Hyper Text Transfer Protocol (HTTP) as communication protocol. The server acts like a HTTP server regarding its clients.... The HTTP protocol allows users to request thumbnails directly from the Web browser according to RFC/1945 [4]. That offers the opportunity to simply integrate dynamically generated thumbnails into Web pages. Neither are specific client applications nor Web browser plug-ins necessary – merely a Web browser is required as a client.” Schmid at 3.2. |
| 13. | A method according to claim 12 and wherein said visualization functionality is operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | “An Application: The VRML User Interface of CoBrow. . . . The solution was to use a web of images consisting of user icons (representing neighbors) and Web page thumbnails (representing Web pages near the user’s location) [3]. The need of a new service which provides dynamically generated thumbnails of arbitrary Web pages became obvious. Figure 3 presents a screen shot of the CoBrow VRML user interface using the Web page thumbnails.” See Figure 3 <i>supra</i> , a web browser parsing VRML commands to display web page thumbnails: |

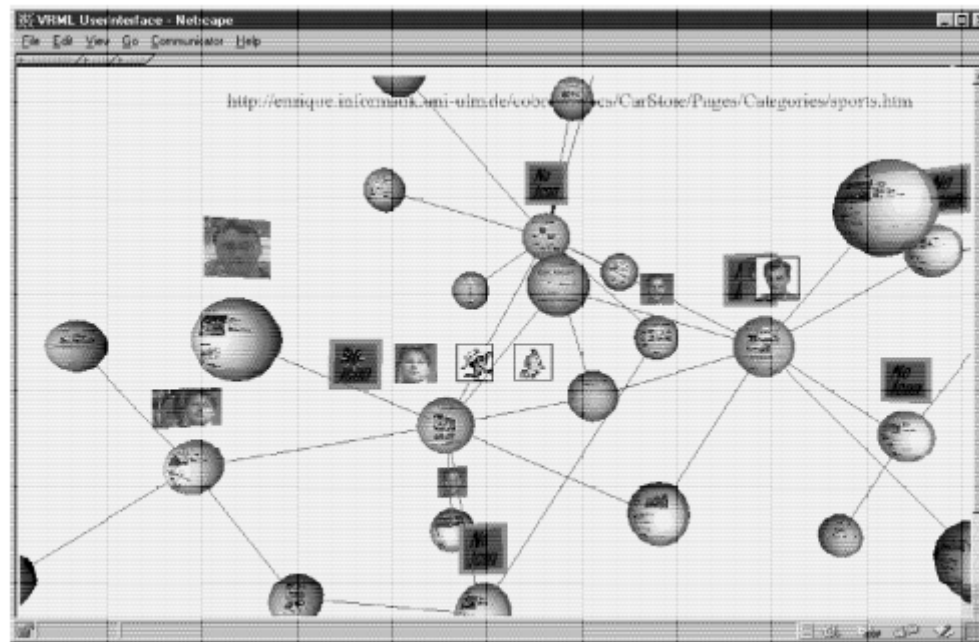
Schmid – *Web Representation with Dynamic Thumbnails*

Figure 3: CoBrow VRML User Interface

14. A method according to claim 13 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page.

Schmid teach the use of thumbnails of "any Web pages," which certainly includes homepages as a subset.

As well, Schmid discloses sending a "request" URL from the client application to the Thumbnail Server that includes a URL variable: "The request format is designed to be HTTP compliant. Each request is encoded as an HTTP-GET [4] request. The general request syntax (in EBNF notation) is as follows: request ::= http://<server name>[:<port>]/?url=<url>{&<options>}."

Along with his accompanying discussion of URL parsing in Section 3.2, this suggests several methods that include displaying a home page. First, the EBNF notation specifies that the request comprises a url sent to the server specified in <server name>; this url would encompass URLs to a home page. Second, this protocol detaches the URL variable requested from the URL of the link the client

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| | | <p>browser is representing via a thumbnail, i.e., the client may request <i>any</i> URL from the thumbnail server. Consequently, one of ordinary skill in the art would have understood (for example) that the thumbnail could be the URL of a home page while the link was to an interior page.</p> <p>An example of this is shown in Snapshot-1, <i>supra</i>, which has requested thumbnails as designated by the URLs to two home pages: home.netscape.com, and www.cobrow.com.</p> |
| 18. | A system for presenting Internet information to a user comprising: | See Claim 1 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| | first functionality providing to a user a visual image of a web page containing at least one hyperlink; and | |
| | second functionality operative at least partially concurrently with said first functionality for providing a thumbnail visual image of the home page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image. | |
| 21. | A system according to claim 18 and wherein said thumbnail visual image is displayed within the visual image of said web page. | See Claim 4 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| 23. | A system according to claim 18 and wherein a plurality of thumbnail visual images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | See Claim 6 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 24. | A system according to claim 18 and wherein said web page comprises an HTML page. | See Claim 7 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 29. | A system according to claim 18 and wherein said second functionality comprises fourth functionality employing a web browser which interfaces via the Internet with a web server including visualization functionality. | See Claim 12 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 30. | A system according to claim 29 and wherein said visualization functionality is operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | See Claim 13 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| 31. | A system according to claim 30 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page. | See Claim 14 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 35. | A method for presenting Internet information to a user comprising: | “[W]e propose a novel online service to provide up-to-date thumbnails of any Web pages. Online provided and dynamically generated thumbnails open new ways to represent the Web and enhance Web designers potentialities.” [Schmid, Abstract] |
| | providing to a user a visual image of a web page containing at least one hyperlink; | <p>Schmid teaches displaying a web page containing hyperlinks. “In order to enhance Web representation, we suggest to improve the power of expression of hyper-links. Text-only links, if well chosen, usually give information about the page content. Thumbnail links, where the image represents a miniature of the referenced Web page, contain information of the page layout and the content. Combining both techniques the user may perceive a maximum of information regarding content and layout. See figure 1 as an example.” [Schmid at 1]</p> <div data-bbox="900 891 1785 1120" data-label="Diagram"> <p style="text-align: center;">Text Thumbnail Text & Thumbnail</p> <p style="text-align: center;">Porsche 911 TC - Data Sheet vs [Image] vs [Image] Porsche 911 TC - Data Sheet</p> <p style="text-align: center;">Information about Information about Information about</p> <p style="text-align: center;">Content: yes Content: little Content: yes</p> <p style="text-align: center;">Layout: no Layout: yes Layout: yes</p> </div> <p>Figure 1: Textual links together with thumbnails contain information on both content and layout of linked pages</p> <p>See also, Figure 2, which “shows how clients, the Thumbnail Server, the rendering engine, and Web servers or proxies are interrelated,” and includes a web browser with hyperlinks. [Schmid at 3.1]</p> |

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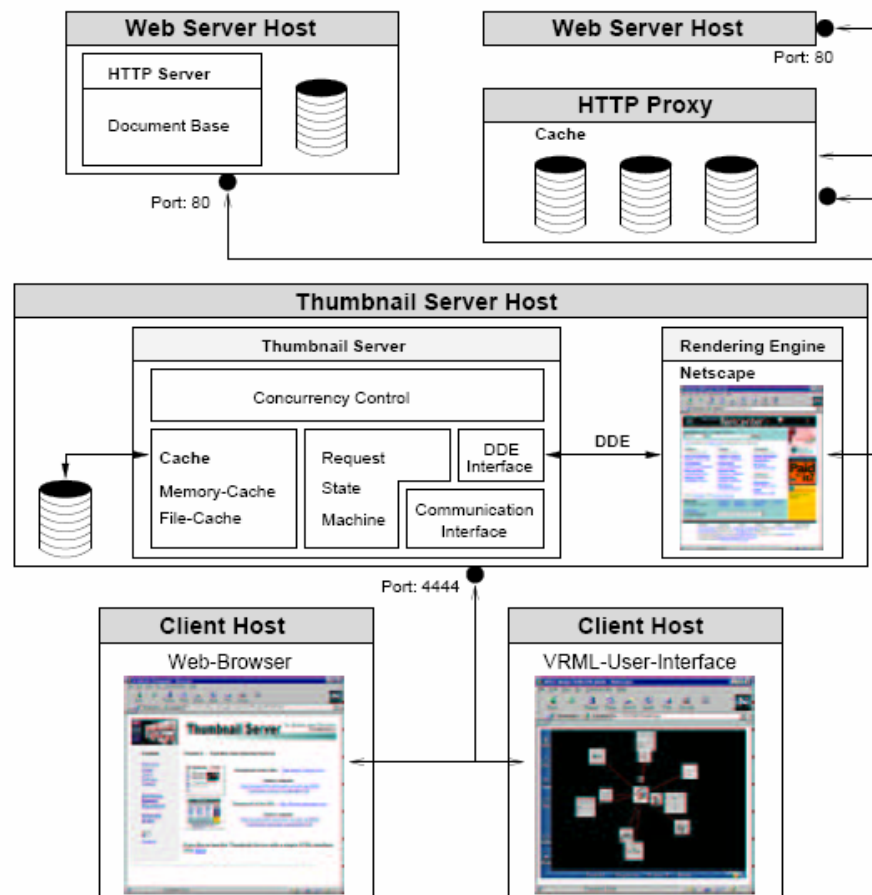


Figure 2: Thumbnail Server Architecture

and at least partially concurrently providing a thumbnail visual image of another web page of at least one web site which is represented by said at least one

and at least partially concurrently providing a thumbnail of another web page of at least one web site which is represented by said at least one hyperlink via the Internet: Schmid at Fig. 1 and Fig. 2, *supra* (displaying thumbnail previews as in-line images that would load along with the web page).

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| | <p>hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image,</p> | <p>Schmid teach the use of thumbnails of "any Web pages".</p> <p>As well, Schmid discloses sending a "request" URL from the client application to the Thumbnail Server that includes a URL variable: "The request format is designed to be HTTP compliant. Each request is encoded as an HTTP-GET [4] request. The general request syntax (in EBNF notation) is as follows: request ::= http://<server name>[:<port>]/?url=<url>{&<options>}.".</p> <p>Along with his accompanying discussion of URL parsing in Section 3.2, this suggests several methods that include displaying a 'another web page'. First, the EBNF notation specifies that the request comprises a url sent to the server specified in <server name>; this url would encompass URLs to a home page. Second, this protocol detaches the URL variable requested from the URL of the link the client browser is representing via a thumbnail, i.e., the client may request <i>any</i> URL from the thumbnail server. Consequently, one of ordinary skill in the art would have understood (for example) that the thumbnail could be the URL of 'another web page' while the link was to either the same page or a different page.</p> <p><i>by employing an image server that stores and provides said thumbnail visual image:</i> "The general architecture of the <i>Thumbnail Service</i> is based on a client-server model. Clients, such as ordinary Web browsers, Java applets, VRML programs, or other stand-alone programs, access the Thumbnail Server via the Internet protocol TCP/IP. A client requests thumbnails of arbitrary Web pages. After the request is received, the server first checks its memory and disk caches. If the requested Web page thumbnail is already rendered and not expired, it is immediately sent back to the client. Otherwise, the server loads the requested Web page and renders the image." [Schmid at 3.1] See also Fig. 2, <i>supra</i> (illustrating a "Thumbnail Server Host" separated from a "Web Server Host").</p> |
| | <p>said providing a thumbnail visual image comprising employing a web browser which interfaces via the Internet with a web server, separated from said image server, including visualization</p> | <p><i>said providing a thumbnail visual image comprising employing a web browser which interfaces via the Internet with a web server, separated from said image server:</i></p> <p>See Schmid at Fig. 2, <i>supra</i> (illustrating a "Thumbnail Server Host" separated from a "Web Server Host" and a "Web-Browser" displaying an annotated web page).</p> |

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| | functionality, said visualization functionality being operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | <p><i>including visualization functionality, said visualization functionality being operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page:</i></p> <p>“The Thumbnail Server and the client applications use the Hyper Text Transfer Protocol (HTTP) as communication protocol. The server acts like a HTTP server regarding its clients.... The HTTP protocol allows users to request thumbnails directly from the Web browser according to RFC/1945 [4]. That offers the opportunity to simply integrate dynamically generated thumbnails into Web pages. Neither are specific client applications nor Web browser plug-ins necessary – merely a Web browser is requires as a client.” Schmid at 3.2.</p> |
| 38. | A method according to claim 35 and wherein said thumbnail visual image is displayed within the visual image of said web page. | See Claim 4 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 40. | A method according to claim 35 and wherein a plurality of thumbnail visual images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | See Claim 6 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 41. | A method according to claim 35 and wherein said web page comprises an HTML page. | See Claim 7 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 42. | A method according to claim 35 and wherein said annotated web page includes the web page having | See Claim 13 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| | within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page. | |
| 46. | A system for presenting Internet information to a user comprising: | See Claim 35 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| | first functionality providing to a user a visual image of a web page containing at least one hyperlink; and | |
| | second functionality operative at least partially concurrently with said first functionality for providing a thumbnail visual image of another web page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image, said second functionality comprising third functionality employing a web browser which interfaces via the Internet with a web server, separated from said image server, including visualization functionality, | |
| | said visualization functionality being operative to embed commands to the web browser to | |

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| | download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | |
| 49. | A system according to claim 46 and wherein said thumbnail visual image is displayed within the visual image of said web page. | See Claim 38 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 50. | A system according to claim 49 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 39 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 51. | A system according to claim 46 and wherein a plurality of thumbnail visual images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | See Claim 40 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 52. | A system according to claim 46 and wherein said web page comprises an HTML page. | See Claim 41 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 53. | A system according to claim 46 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites | See Claim 42 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| | referenced by hyperlinks contained in the web page | |
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EXHIBIT F

Kopetzky et al., *Visual preview for link traversal on the World Wide Web***The following claims are invalid as being anticipated by Kopetsky**

Kopetzky, T. and Muhlhauser, M., *Visual preview for link traversal on the World Wide Web*. Computer Networks Vol. 31, No. 11 (May 17, 1999) pages 1525-1532.

As set forth below, Kopetsky, et al. ('Kopetzky') discloses each and every element claimed in the listed claims of the '904 patent.

| Claim # | The '904 Patent | Disclosure of Each Limitation in Kopetsky¹ |
|----------------|--|--|
| 1. | A method for presenting Internet information to a user comprising: | Kopetzky discloses a "visual link preview" to present Internet information for view by end users for the purpose of helping them make a "decision about which links to follow and which to ignore." [Kopetsky, page 1525] |
| | providing to a user a visual image of a web page containing at least one hyperlink; and | A visual image of a webpage containing hyperlinks is displayed to a user via the web browser. <i>See e.g.</i> , pp. 1526-1527. |
| | at least partially concurrently providing a thumbnail visual image of the home page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image. | Kopetzky discloses providing a thumbnail preview of the webpage (in this case a home page) associated with the hyperlink. <i>See e.g.</i> , pp. 1527. The thumbnail image is a small JPEG image file, where Fig. 2 (reproduced below) on page 1527 illustrates two JPEG thumbnails produced by two different methods. The thumbnail is of the Telecooperation Department home page illustrated in Fig. 1 on page 1526. |

¹ I reserve the right to revise this report and charts attached thereto concerning the invalidity of the asserted claims depending upon the Court's construction of the asserted claims, any findings as to the priority date of the asserted claims, and/or positions that Plaintiff or its expert witness(es) may take concerning claim interpretation, construction, infringement, and/or invalidity issues. It is also my understanding that certain discovery has yet to be conducted or completed in this matter and I further reserve the right to supplement my report should additional information become available.

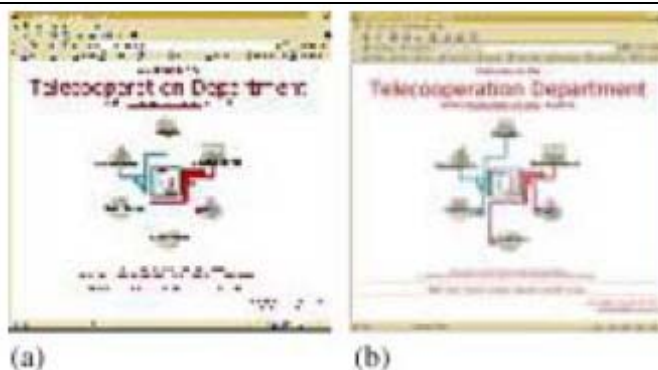


Fig. 2. From [Kopetsky, page 1527]

Kopetsky discloses that the thumbnail image is to a home page. “The following list shows which link types are recognized by our system and how they are visualized. As the linking mechanism works with URLs we are using properties of the URLs to categorize a link.

- **The URL points to the beginning of a Web page, as in <http://www.tk.unilinz.ac.at/>. Links of this type are visualized using a thumbnail picture as in Fig. 2b.”** [Kopetsky, Page 1527, emphasis added]

Kopetsky also discloses that the thumbnail image may represent a location other than the one pointed to in the link. In the example below, the thumbnail would be to the URL trimmed to exclude the #hypertext anchor, although the link associated with that thumbnail would be to the URL including the anchor.

“The URL points to an anchor, as in <http://www.encyclopedia.com/h.html#hypertext>. Links of this type may be visualized using a thumbnail picture or, if there is text after the anchor, the text referenced by the link itself may be displayed (see Fig. 3a).”


[Kopetsky, Page 1527, emphasis added]

A hypertext “anchor,” indicated by the “#” sign, creates an interior link on a web document, so that a user can navigate to different locations within the same web page or document. In Kopetsky’s example, the www.encyclopedia.com/h.html page is likely an alphabetical list of all encyclopedia entries starting with the letter H. The anchor is to “hypertext,” an entry that would be near the bottom of the “h.html” page.

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| | | <p>Kopetsky discloses a proxy server / cache that functions as an image server that stores and provides the thumbnail visual image. <i>See e.g.</i>, pp. 1529, 1530 for detail.</p> <p>Kopetzky introduces the proxy server as follows:</p> <p>“To solve this problem an approach using a proxy server was chosen. An overview of the main components of the proxy server, which has been implemented in Java, can be seen in Figure 7.</p> <p>The proxy server has the following tasks:</p> <ul style="list-style-type: none"> • analyze the links in the requested HTML document and generate the preview images for all links in the document; • cache the requested HTML documents and the computed link preview images for future access; • modify the HTML documents in a way that the requesting browser is able to show the link preview images. <p>This approach has the following advantages:</p> <ul style="list-style-type: none"> • the proxy server has to generate the preview information only once (depending on server space); • many readers can share one proxy server and thus benefit from already generated preview information; • readers only have to make one change in their browsing environment: they have to configure the Web client to use a proxy server – everything else is done automatically; • the proxy server can use other proxies servers and thus benefit from information already fetched from the Web.” [Kopetsky, pages 1528-1529] <p>The text following the above description, although not repeated here, clarifies that the proxy server is separate from both the browser asking for a requested document and from other servers that deliver the source document, i.e., as with most proxy servers, it acts as a separate intermediary between the two.</p> <p>Kopetzky also expressly discloses modifying “Link services [that] store link information external to the document linked” so that it can store thumbnail</p> |
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| | | information as well as the link information. This modification defines a separate image server. [Kopetsky, Section 6.4 page 1531] |
| 4 | A method according to claim 1 and wherein said thumbnail visual image is displayed within the visual image of said web page. | <p>Kopetzky discloses providing the thumbnail preview within the visual image of the webpage. <i>See e.g.</i>, 1527-1528.</p> <p>Figure 5 from Kopetsky, reproduced below, illustrates the thumbnail preview within the visual image of the page.</p>  |
| 5. | A method according to claim 4 and wherein said thumbnail visual image appears hovering over said hyperlink. | <p>Kopetzky discloses providing the thumbnail preview upon a mouse-over event over a link. <i>e.g.</i>,</p> <p>“The link preview is simply activated by moving the mouse over a link. The presentation of the link preview is animated. This means that the reader has time to accommodate to the new situation. The preview opens below the link and will remain open for seven seconds. The preview can be closed by moving the mouse over the preview and then out of it. The preview will close also when the reader moves the mouse over another link and thus activating a new preview image.” [Kopetsky, page 1528]</p> |
| 6. | A method according to claim 1 and wherein a plurality of thumbnail visual images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | <p>Kopetzky discloses applying thumbnail preview images for every hyperlink on a web page. <i>See e.g.</i>, pp. 1527-1529 and example below.</p> <p>“The link preview is simply activated by moving the mouse over a link. The presentation of the link preview is animated. This means that the reader has time to accommodate to the new situation. The preview opens below the link and will remain open for seven seconds. The preview can be closed by moving the mouse over the preview and then out of it. The preview will close also when the reader moves the mouse over another link and thus activating a new preview</p> |

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| | | <p>image. “[Kopetsky, page 1528]</p> <p>Kopetsky also discloses that more control over the preview can be provided, e.g., to have the preview always on to provide a plurality of thumbnail images: “More control over the preview. Currently, control is limited to the states “preview on” and “preview off”. Users could, for example, define which link to preview in which manner.” [Kopetsky, page 1531]</p> |
| 7. | A method according to claim 1 and wherein said web page comprises an HTML page. | Kopetzky discloses that the web page comprises an HTML page. <i>See e.g.</i> , pp. 1528-1529. For example, “the proxy server has the following tasks: analyze the links in a requested HTML document...” (Kopetsky, page 1528] |
| 12. | <p>A method according to claim 1 and wherein said providing a thumbnail visual image comprises:</p> <p>employing a web browser which interfaces via the Internet with a web server including visualization functionality.</p> | <p>Kopetzky discloses employing a web browser that interfaces using standard HTTP protocols over the Internet with a proxy server that functions as a web server. The proxy server (web server) includes visualization functionality that modifies the HTML code for the web page to include Javascript code that enables link preview to provide a thumbnail visual image. <i>See e.g.</i>, pp. 1528-1530.</p> <p>Kopetzky in Section 4 describes the client-side implementation of the web browser, while Section 3 describes the architecture of the proxy server, as well as the interplay between the two.</p> |
| 13. | A method according to claim 12 and wherein said visualization functionality is operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | <p>Kopetzky discloses visualization functionality that embeds Javascript code into the HTML code for the webpage. <i>See e.g.</i>, pp. 1528-1530. The Javascript code commands the web browser to download, via the proxy server that functions as an image server, thumbnail visual images of webpages which represent hyperlinks contained in the webpage. <i>See e.g.</i>, pp. 1528-1530. A resulting annotated webpage including the thumbnail preview image is provided to a user via the web browser.</p> <p>Kopetzky Section 4.1 provides details, an extract which is reproduced below.</p> <p>“To enable the browser to show the link preview, the proxy server inserts a layer definition for invisible layers and a short JavaScript program at the beginning of each downloaded HTML-page. An example for a layer definition can be seen in Fig. 8. The position where the insertion actually takes place depends on the structure of the document (if it contains a head tag or a frame set, for example). Additionally each <A HREF> tag is modified to react to events when the mouse pointer moves over the link.</p> |

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| | | <p>A mouseover event-handler is inserted into each link description. This handler will activate a procedure in the inserted JavaScript program if the reader moves his mouse over the link. The handler passes as a parameter the name of the preview image to the procedure. This name was inserted into the link definition just as the event-handler. The procedure will make the invisible layer visible and set some parameter of the layer, e.g. the information which preview image is to be shown.” [Kopetzky, page 1529]</p> |
| 14. | <p>A method according to claim 13 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page.</p> | <p>Kopetzky discloses providing a thumbnail preview of the webpage (in this case a home page) associated with the hyperlink. <i>See e.g.</i>, pp. 1527. The thumbnail image is a small JPEG image file, where Fig. 2, <i>supra</i>, on page 1527 illustrates two JPG thumbnails produced by two different methods. The thumbnail is of the Telecooperation Department home page illustrated in Fig. 1, <i>supra</i>, on page 1526.</p> <p>Kopetsky disclose that the thumbnail image is to a home page. “The following list shows which link types are recognized by our system and how they are visualized. As the linking mechanism works with URLs we are using properties of the URLs to categorize a link.</p> <ul style="list-style-type: none"> • The URL points to the beginning of a Web page, as in http://www.tk.unilinz.ac.at/. Links of this type are visualized using a thumbnail picture as in Fig. 2b.” [Kopetsky, Page 1527, emphasis added] <p>Kopetsky also discloses that more control over the preview can be provided, e.g., to have the preview always on to provide a plurality of thumbnail images: “More control over the preview. Currently, control is limited to the states “preview on” and “preview off”. Users could, for example, define which link to preview in which manner.” [Kopetsky, page 1531]</p> <p>Kopetsky discloses that these homepages of web sites are referenced by hyperlinks: “To follow the previewed link, the user has the possibility to activate the link itself as usual or to click on the preview image.” [Kopetsky, page 1528]</p> |
| 15. | <p>A method according to claim 1 and wherein said thumbnail visual image appears hovering over said</p> | <p>See Claim 5 analysis, <i>supra</i>, which is hereby incorporated by reference.</p> |

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| | hyperlink. | |
| 16. | A method for generating an image server database of thumbnail visual images of web pages, the method comprising: | Kopetzky discloses generating and storing thumbnail visual images of web pages. |
| | receiving a list of URLs corresponding to said web pages, the thumbnail visual images of which it is desired to supply to said image server database; | <p>In his discussion of the architecture of the proxy server, Kopetzky discloses receiving a list of URLs corresponding to desired thumbnail visual images:</p> <p>“The proxy server has the following tasks:</p> <ul style="list-style-type: none"> • analyze the links in a requested HTML document and generate the preview images for all links in the document;” [Kopetzky, page 1528, emphasis added] |
| | operating a multiplicity of downloaders simultaneously to retrieve from the Internet, web pages and embedded objects corresponding to URLs from said list; | <p>For each link, an internal web browser is started to retrieve, in parallel simultaneously from the Internet, web pages and embedded objects corresponding to URLs from the list:</p> <p>“(4) The parser analyses the document regarding its structure and searches for link information. If link information is found, for each link an internal Web browser will be started. These browsers will be used to generate the preview images.” [Kopetzky, page 1529, emphasis added]</p> <p>In addition, when describing the activities of the proxy server, Kopetzky discloses that web pages are retrieved / downloaded simultaneously (in parallel) to speed up processing:</p> <p>“Part of these activities happen in parallel to speed up processing.” [Kopetzky, page 1529]</p> |
| | causing a thumbnail generator to render retrieved web pages retrieved simultaneously by said multiplicity of downloaders; and causing said thumbnail generator to shrink said rendered images of said retrieved web pages and supply them to said image server | <p>The thumbnail generator renders and shrinks the images of the retrieved web pages and supplies them to the proxy server cache for later use:</p> <p>“The proxy server has the following tasks:</p> <ul style="list-style-type: none"> • analyze the links in a requested HTML document and generate the preview images for all links in the document; • cache the requested HTML documents and the computed link preview images for future access;” [Kopetzky, page 1528-1529, emphasis added] |

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| | database. | <p>One skilled in the art would know that storing the computed link preview images in a cache could be done with a database. Kopetzky acknowledges this when he expressly discloses in his Section 6.4 modifying “Link services [that] store link information external to the document linked” so that it can store thumbnail information as well as the link information. In this disclosure, he specifically references a link service by L.A. Carr, D. De Roure, W. Hall and G. Hill titled <i>The Distributed Link Service: A Tool for Publishers, Authors, and Readers</i>, published in: Proc. 4th Int. World Wide Web Conference, Boston, MA, USA, O’Reilly and Associates, December, 1995. In that reference, the link service stores its information in one or more databases called link databases.</p> <p>When describing the activities of the proxy server, Kopetzky discloses that web pages are retrieved / downloaded simultaneously (in parallel) to speed up processing. For each link, an internal web browser is started to retrieve, in parallel simultaneously from the Internet, web pages and embedded objects corresponding to URLs from the list:</p> <p>“(4) The parser analyses the document regarding its structure and searches for link information. If link information is found, for each link an internal Web browser will be started. These browsers will be used to generate the preview images.” [Kopetzky, page 1529]</p> <p>Kopetzky adds: “Part of these activities happen in parallel to speed up processing.” [Kopetzky, page 1529]</p> |
| 17. | A method according to claim 16 also comprising deleting executable content from said retrieved web pages. | The thumbnail generated image of the retrieved web page necessarily deletes executable content, as images do not contain executable content. |
| 18. | A system for presenting Internet information to a user comprising: | See Claim 1 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| | first functionality providing to a user a visual image of a web page containing at least one hyperlink; and | |

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| | second functionality operative at least partially concurrently with said first functionality for providing a thumbnail visual image of the home page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image. | |
| 21. | A system according to claim 18 and wherein said thumbnail visual image is displayed within the visual image of said web page. | See Claim 4 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 22. | A system according to claim 21 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 5 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 23. | A system according to claim 18 and wherein a plurality of thumbnail visual images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | See Claim 6 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 24. | A system according to claim 18 and wherein said web page comprises an HTML page. | See Claim 7 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 29. | A system according to claim 18 and wherein said second functionality comprises fourth | See Claim 12 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| | functionality employing a web browser which interfaces via the Internet with a web server including visualization functionality. | |
| 30. | A system according to claim 29 and wherein said visualization functionality is operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | See Claim 13 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 31. | A system according to claim 30 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page. | See Claim 14 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 32. | A system according to claim 18 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 15 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 33. | A system for generating an image server database of thumbnail visual images of web pages, the system comprising: | See 16 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| | a multiplicity of downloaders, each receiving at least one URL | |

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| | from a list of URLs corresponding to said web pages, the thumbnail visual images of which it is desired to supply to said image server database, and | |
| | simultaneously retrieving from the Internet web pages and embedded objects corresponding to said at least one URL; and | |
| | at least one thumbnail generator operative to render the web pages, shrink said rendered images of the web pages and supply said rendered images to said image server database. | |
| 34. | A system according to claim 33 and wherein said multiplicity of downloaders are operative to delete executable content from the web pages. | See 17 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 35. | A method for presenting Internet information to a user comprising: | Kopetzky discloses a “visual link preview” to present Internet information for view by end users for the purpose of helping them make a “decision about which links to follow and which to ignore” [Kopetsky, page 1525]. |
| | providing to a user a visual image of a web page containing at least one hyperlink; and | A visual image of a webpage containing hyperlinks is displayed to a user via the web browser. <i>See e.g.</i> , pp. 1526-1527. |
| | at least partially concurrently providing a thumbnail visual image of another web page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that | Kopetzky discloses providing a thumbnail preview of the webpage (in this case a home page) associated with the hyperlink. <i>See e.g.</i> , p. 1527. The thumbnail image is a small JPEG image file, where Fig. 2 (reproduced below) on page 1527 illustrates two JPEG thumbnails produced by two different methods. The thumbnail is of the Telecooperation Department home page illustrated in Fig. 1 on page 1526. |

stores and provides said thumbnail visual image,

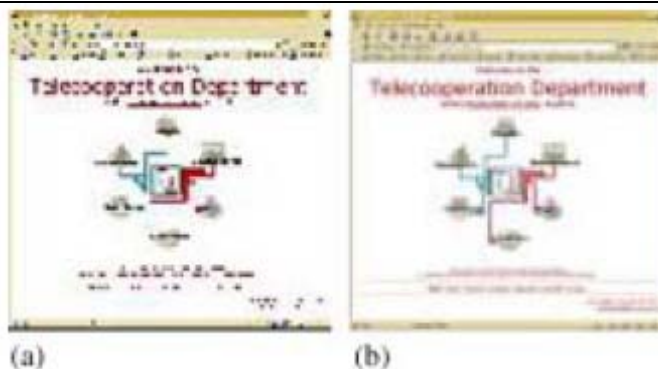


Fig. 2. From [Kopetsky, page 1527]

Kopetsky discloses that the thumbnail image is to a home page. “The following list shows which link types are recognized by our system and how they are visualized. As the linking mechanism works with URLs we are using properties of the URLs to categorize a link.

- **The URL points to the beginning of a Web page, as in <http://www.tk.unilinz.ac.at/>. Links of this type are visualized using a thumbnail picture as in Fig. 2b.” [Kopetsky, Page 1527, emphasis added]**

Kopetsky also disclose that the thumbnail image may represent a page other than the one pointed to in the link. In the example below, the thumbnail would be to the URL trimmed to exclude the #hypertext anchor, although the link associated with that thumbnail would be to the URL including the anchor.

“The URL points to an anchor, as in <http://www.encyclopedia.com/h.html#hypertext>. Links of this type may be visualized using a thumbnail picture or, if there is text after the anchor, the text referenced by the link itself may be displayed (see Fig. 3a).”

[Kopetsky, Page 1527, emphasis added]

A hypertext “anchor,” indicated by the “#” sign, creates an interior link on a web document, so that a user can navigate to different locations within the same web page or document. In Kopetsky’s example, the www.encyclopedia.com/h.html page is likely an alphabetical list of all encyclopedia entries starting with the letter H. The anchor is to “hypertext,” an entry that would be near the bottom of the “h.html” page.

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| | <p>said providing a thumbnail visual image comprising employing a web browser which interfaces via the Internet with a web server, separated from said image server, including visualization functionality,</p> | <p>Kopetsky discloses a separate proxy server / cache that functions as an image server that stores and provides the thumbnail visual image. <i>See e.g.</i>, pp. 1529, 1530 for detail. Kopetzky introduces the proxy server as follows:</p> <p>“To solve this problem an approach using a proxy server was chosen. An overview of the main components of the proxy server, which has been implemented in Java, can be seen in Figure 7.</p> <p>The proxy server has the following tasks:</p> <ul style="list-style-type: none"> • analyze the links in the requested HTML document and generate the preview images for all links in the document; • cache the requested HTML documents and the computed link preview images for future access; • modify the HTML documents in a way that the requesting browser is able to show the link preview images. <p>This approach has the following advantages:</p> <ul style="list-style-type: none"> • the proxy server has to generate the preview information only once (depending on server space); • many readers can share one proxy server and thus benefit from already generated preview information; • readers only have to make one change in their browsing environment: they have to configure the Web client to use a proxy server – everything else is done automatically; • the proxy server can use other proxies servers and thus benefit from information already fetched from the Web.” [Kopetsky, pages 1528-1529] <p>The text following the above description, although not repeated here, clarifies that the proxy server is separate from both the browser asking for a requested document and from other servers that deliver the source document, i.e., as with most proxy servers, it acts as a separate intermediary between the two.</p> <p>Kopetzky also expressly discloses modifying “Link services [that] store link information external to the document linked” so that it can store thumbnail</p> |

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| | | information as well as the link information. This modification defines a separate image server. [Kopetsky, Section 6.4 page 1531] |
| | said visualization functionality being operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | <p>Kopetzky discloses visualization functionality that embeds Javascript code into the HTML code for the webpage. <i>See e.g.</i>, pp. 1528-1530. The Javascript code commands the web browser to download, via the proxy server that functions as an image server, thumbnail visual images of webpages which represent hyperlinks contained in the webpage. <i>See e.g.</i>, pp. 1528-1530. A resulting annotated webpage including the thumbnail preview image is provided to a user via the web browser.</p> <p>Kopetzky Section 4.1 provides details, an extract which is reproduced below. “To enable the browser to show the link preview, the proxy server inserts a layer definition for invisible layers and a short JavaScript program at the beginning of each downloaded HTML-page. An example for a layer definition can be seen in Fig. 8. The position where the insertion actually takes place depends on the structure of the document (if it contains a head tag or a frame set, for example). Additionally each <A HREF> tag is modified to react to events when the mouse pointer moves over the link. A mouseover event-handler is inserted into each link description. This handler will activate a procedure in the inserted JavaScript program if the reader moves his mouse over the link. The handler passes as a parameter the name of the preview image to the procedure. This name was inserted into the link definition just as the event-handler. The procedure will make the invisible layer visible and set some parameter of the layer, e.g. the information which preview image is to be shown.” [Kopetzky, page 1529]</p> |
| 38. | A method according to claim 35 and wherein said thumbnail visual image is displayed within the visual image of said web page. | See Claim 4 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 39. | A method according to claim 38 and wherein said thumbnail visual image appears hovering over said hyperlink. containing at least one hyperlink. | See Claim 5 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| 40. | A method according to claim 35 and wherein a plurality of thumbnail visual images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | See Claim 6 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 41. | A method according to claim 35 and wherein said web page comprises an HTML page. | See Claim 7 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 42. | A method according to claim 35 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page. | See Claim 13 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 45. | A method according to claim 35 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 15 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 46. | A system for presenting Internet information to a user comprising: | See Claim 35 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| | first functionality providing to a user a visual image of a web page containing at least one hyperlink; and | A visual image of a webpage containing hyperlinks is displayed to a user via the web browser. <i>See e.g.</i> , pp. 1526-1527. |
| | second functionality operative at least partially concurrently with said first functionality for providing a thumbnail visual image of another web page of at | Kopetzky discloses providing a thumbnail preview of the webpage associated with the hyperlink. <i>See e.g.</i> , pp. 1527. The thumbnail image is a small JPEG image file. <i>See e.g.</i> , pp. 1527; <i>Compare</i> Fig. 1 and Fig. 2. Kopetzky further discloses at least partially concurrently providing the thumbnail preview with the visual image of the web page. <i>See e.g.</i> , pp. 1527. Kopetzky also discloses alternatively providing the thumbnail |

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| | least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image, | upon a mouse-over event over a link. <i>See e.g.</i> , pp. 1528. A proxy server that functions as an image server stores and provides the thumbnail visual image. <i>See e.g.</i> , pp. 1529, 1530. Kopetzky also expressly discloses modifying the server disclosed in <i>The Distributed Link Service: A Tool for Publishers, Authors, and Readers</i> , Proc. 4th Int. World Wide Web Conference, Boston, Mass., December 1995 (L.A. Carr), to store and provide images as part of the link service. |
| | said second functionality comprising third functionality employing a web browser which interfaces via the Internet with a web server, separated from said image server, including visualization functionality, | Kopetzky discloses employing a web browser that interfaces using standard HTTP protocols over the Internet with a proxy server that functions as a web server. The same proxy server separately functions as both a web server and an image server. The proxy server (web server) includes visualization functionality that modifies the HTML code for the web page to include Javascript code that enables link preview to provide a thumbnail visual image. <i>See e.g.</i> , pp. 1528-1530. |
| | said visualization functionality being operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | Kopetzky discloses visualization functionality that embeds Javascript code into the HTML code for the webpage. <i>See e.g.</i> , pp. 1528-1530. The Javascript code commands the web browser to download, via the proxy server that functions as an image server, thumbnail visual images of webpages which represent hyperlinks contained in the webpage. <i>See e.g.</i> , pp. 1528-1530. A resulting annotated webpage including the thumbnail preview image is provided to a user via the web browser. |
| 49. | A system according to claim 46 and wherein said thumbnail visual image is displayed within the visual image of said web page. | See Claim 38 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 50. | A system according to claim 49 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 39 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| 51. | A system according to claim 46 and wherein a plurality of thumbnail visual images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | See Claim 40 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 52. | A system according to claim 46 and wherein said web page comprises an HTML page. | See Claim 41 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 53. | A system according to claim 46 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page. | See Claim 42 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 56. | A system according to claim 46 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 45 analysis, <i>supra</i> , which is hereby incorporated by reference. |

EXHIBIT G1

Brown (U.S. Patent No. 6,356,908) In Combination

The following claims are invalid under 35 U.S.C. § 103(a) as being obvious over Brown in view of the incorporated references

US Patent No. 6,356,908: *Automatic web page thumbnail generation*. (Michael Wayne Brown, Kelvin Roderick Lawrence, Michael A. Paolini). Filed Jul. 30, 1999, Issued March 12, 2002.

As set forth below, US Patent No. 6,356,908 ('Brown'), alone or in combination with each listed reference, discloses each and every element claimed in the listed claims of the '904 patent, when analyzed under the standard set forth in *KSR v. Teleflex*, 127, S. Ct. 1727 (2007):

- Exhibit 5: Cockburn, Greenberg et. al., ('Cockburn'), or
- Exhibit 6: CNN Interactive ('CNN Interactive'), or
- Exhibit 8: Berners-Lee et. al. ('Berners-Lee'), or
- Exhibit 11: Akamai Freeflow ('Akamai'), or
- Exhibit 13: US Patent 6,594,697 ('Praitis'), or
- Exhibit 14: DoubleClick Ad Server ('Doubleclick'), or
- Exhibit 15: US Patent 6,108,703 ('Leighton'), or
- Exhibit 16: US Patent 5,761,436 ('Nielsen').

| Claim # | The '904 Patent | Disclosure of Each Limitation in Brown ¹² |
|---------|--|---|
| 1. | A method for presenting Internet information to a user comprising: | "The invention relates generally to the field of computer software and, more specifically, to Internet related computer software. . . . it would be beneficial for Internet users to have a tool to enable them to make more informed decisions about |

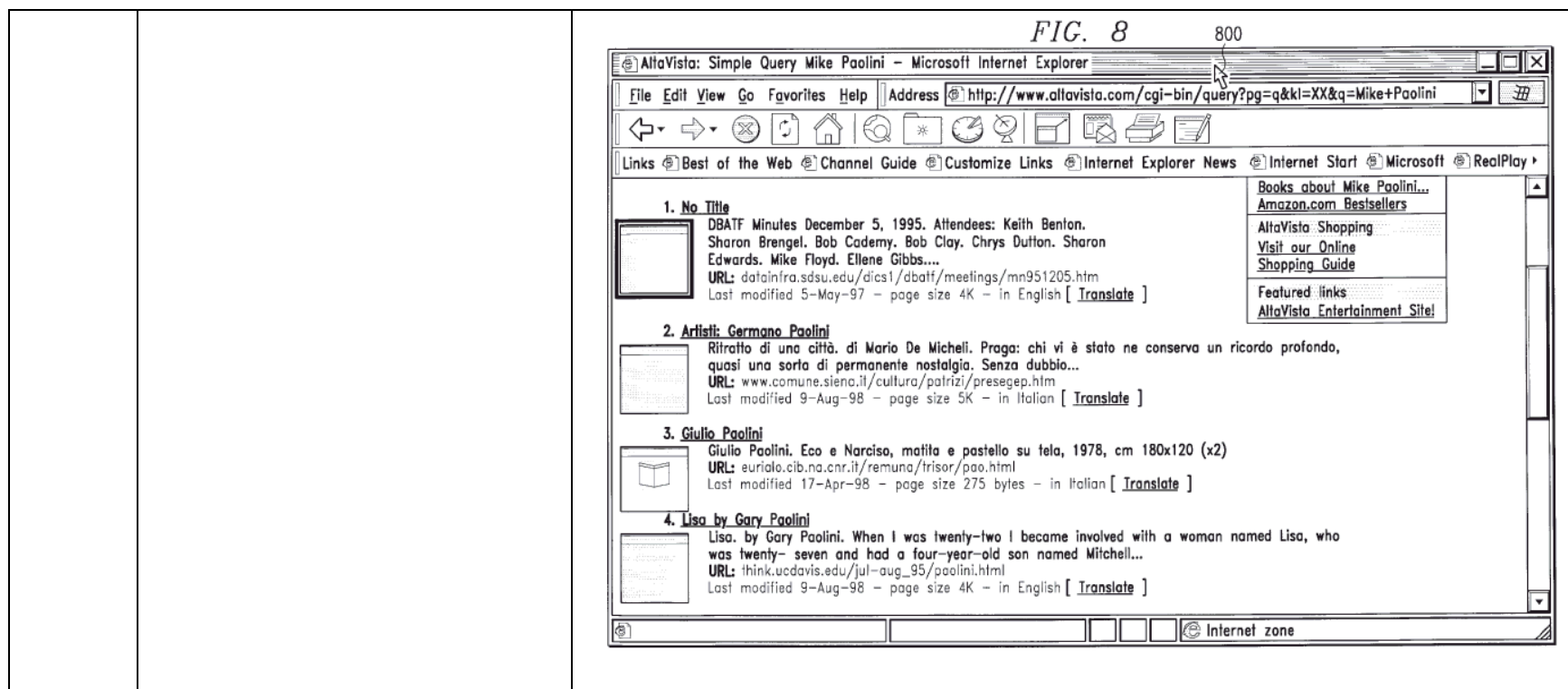
¹ I reserve the right to revise this report and charts attached thereto concerning the invalidity of the asserted claims depending upon the Court's construction of the asserted claims, any findings as to the priority date of the asserted claims, and/or positions that Plaintiff or its expert witness(es) may take concerning claim interpretation, construction, infringement, and/or invalidity issues. It is also my understanding that certain discovery has yet to be conducted or completed in this matter and I further reserve the right to supplement my report should additional information become available.

² The '904 Patent cites two patents by Brown: 6,356,908 (the "'908 Patent") and 6,665,838 (the "'838 Patent"). Only the '838 Patent is discussed in the '904 file history. The '908 Patent, charted here, was "made of record and not relied upon" but was "considered pertinent to applicant's disclosure." '904 Patent file history, Office Action dated March 8, 2004, page 11.

Brown (U.S. Patent No. 6,356,908) In Combination

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| | | which links to follow.” [Brown at col. 1:23-25; 2:8-10] |
| | providing to a user a visual image of a web page containing at least one hyperlink; | <p>“FIG. 8 shows a screen image for search results with thumbnails placed in-line near a respective link.” [Brown at col. 2:48-49]</p> <p>See also Figure 8, <i>infra</i>.</p> |
| | and at least partially concurrently providing a thumbnail visual image of the home page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image. | <p><i>at least partially concurrently providing a thumbnail of the home page of at least one web site which is represented by said at least one hyperlink via the Internet:</i></p> <p>“In one preferred embodiment, the thumbnails are displayed in-line (that is each thumbnail is placed below the preceding thumbnail in a vertical line) near the corresponding link on the currently displayed web page as illustrated in FIG. 8.” [Brown at col. 6:33-37]</p> <p>Figures 8, 9, and 10 illustrate a result page described by Brown. Each figure shows embedded thumbnail images which were provided at least partially concurrently with the search result page.</p> |

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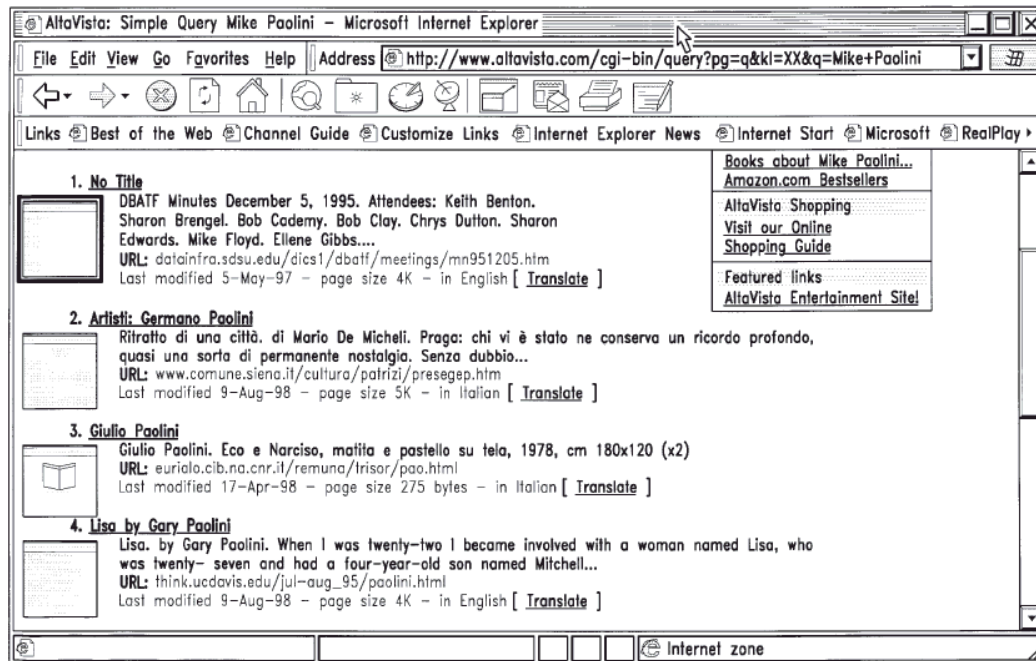


FIG. 9

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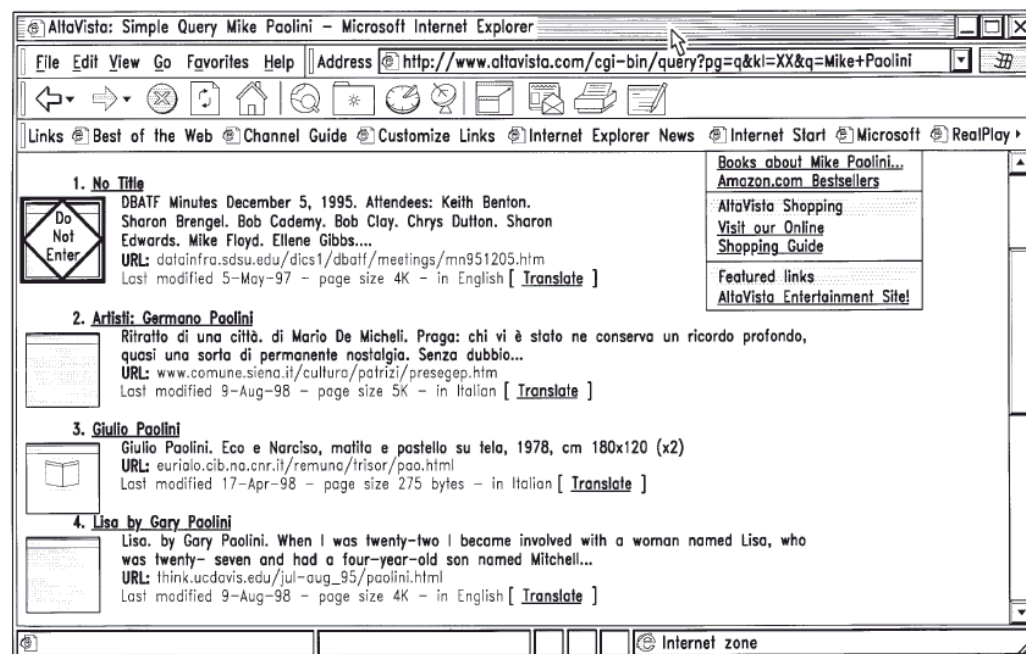


FIG. 10

Brown teaches displaying thumbnails of web pages, which would naturally include home pages as a subset.

Brown also teaches displaying the home page of at least one web site which is represented by said at least one hyperlink. See Brown at column 8, lines 16-27: “In another embodiment of the pop-up thumbnails, rather than generating and displaying thumbnails of the web pages associated with links, an icon representing the domain of that link could be generated and displayed next to the text representing the link. For example, if the domain is associated with Yahoo, then an icon displaying the Yahoo logo might be displayed next to the link. Furthermore, the icon could be assigned by the user or by the domain itself, and picked up automatically by the browser. This icon would then pop-up next to the link as the pointer moves over the link, just as the thumbnail does in an example depicted in FIG. 12.” (emphasis

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| | | <p>added).</p> <p>One of ordinary skill in the art would have understood that a thumbnail preview image of a top level domain could serve as an iconic representation of that domain.</p> <p><i>by employing an image server that stores and provides said thumbnail visual image:</i></p> <p>Brown describes three methods one could implement to produce iconic representations of web page links.</p> <p>First, Brown discloses employing a proxy server as an image server. The '908 Brown Patent discloses a "Thumbnail Assistant" that "intercepts and parses documents after communications 510 receives documents, but prior to processing by language interpretation 512. After parsing documents, thumbnail assistant 516 generates thumbnail images of linked pages to a loaded web page and displays these thumbnails to a user on a client machine. . . . Furthermore, <u>thumbnail assistant 516 could be utilized on a proxy server, wherein thumbnail assistant 516 pre-generates web pages on a web server prior to receipt by browser 500.</u> In this instance, which would be preferred for legacy browsers, the server would modify the stream sent to the user and place references to the thumbnails in that stream." (emphasis added) [Brown at col. 5: 17-52]</p> <p>The second method describes a server that sends these iconic representations, i.e., an image server: "Three methods might be implemented in order to produces these iconic representations of web page link. In the first case, this information could be embedded in the source. In the second instance, assuming the user recognizes the icon as a link, the user would then check the associated domain location, as opposed to a database (local or remote or both), and retrieve the icon. This would be the preferred method, given that the source would not have to be modified. <u>Finally, the third alternative method for producing these icons is to send the information via a separate protocol/communication with the server.</u>" [Brown at col. 8:28-38]</p> <p>The third method teaches storing thumbnail images for later use in a cache, which operates as an image server: "If the thumbnail option has been selected, then</p> |
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| | | <p>thumbnail assistant 516 parses the web page for links to other web pages (step 725). Thumbnail assistant 516 then checks the cache for linked pages and prefetches the linked pages that are not in the cache (step 730) using the prefetch mechanism associated with web browser 516. Thumbnail assistant 516 then generates thumbnails of each linked page that does not already have a thumbnail in the cache (step 735) and then <u>stores the newly generated thumbnails</u> in the cache (step 740).” (emphasis added) [Brown at col. 6:17-26]</p> <p>See also Figure 7:</p> |
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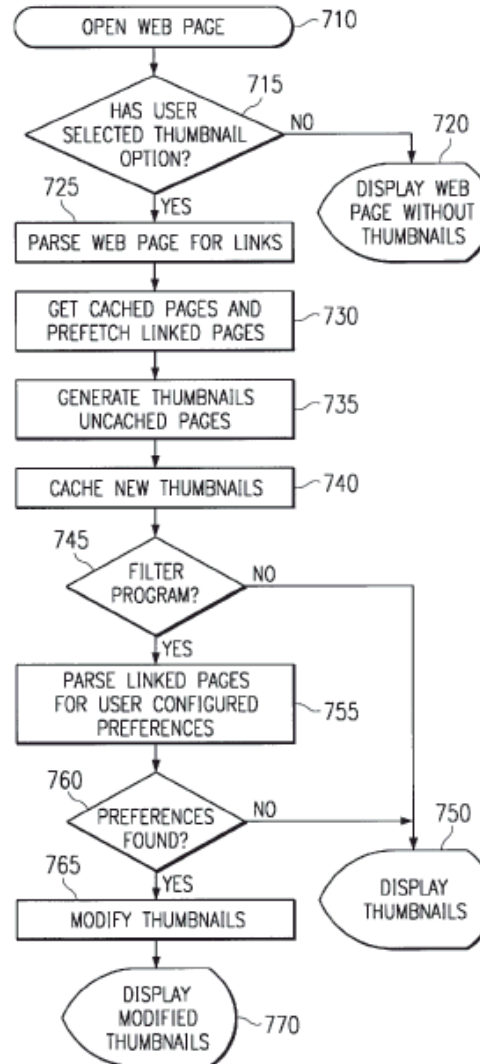
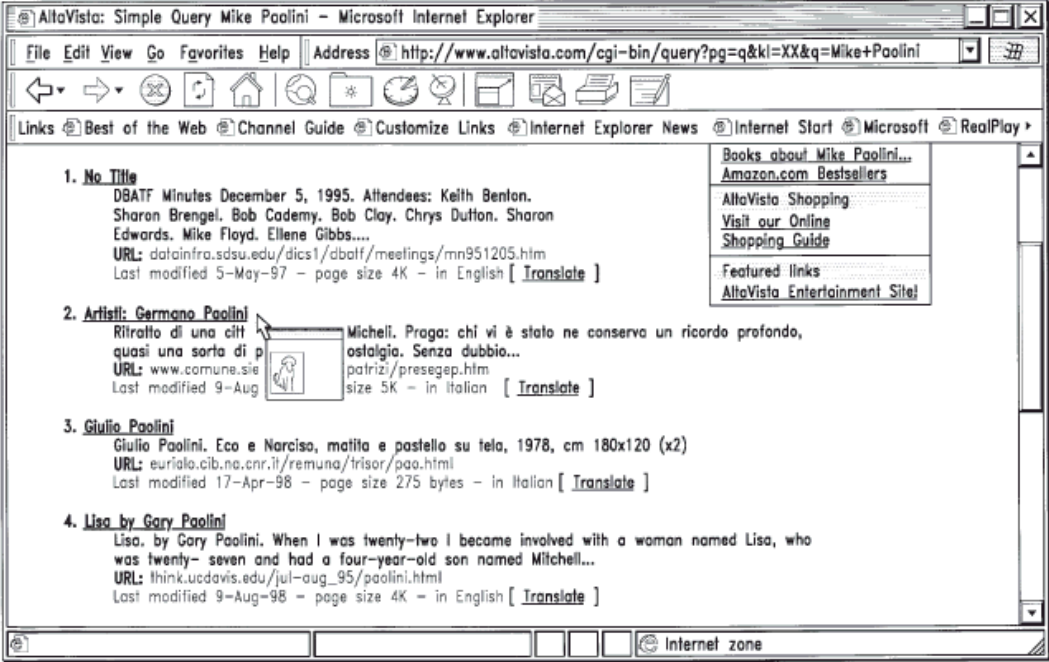


FIG. 7

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| | | <p>If Brown is found not to anticipate the ‘home page’ limitation, it would have been obvious to one of ordinary skill in the art to display a home page based on the disclosures in:</p> <ul style="list-style-type: none"> • Cockburn (Exhibit 5) <i>or</i> • CNN Interactive (Exhibit 6). |
| 4. | A method according to claim 1 and wherein said thumbnail visual image is displayed within the visual image of said web page. | <p>Figures 8, 9, and 10, <i>supra</i>, teach displaying the thumbnail visual image within the visual image of said web page. See also col. 6:33-37; 6:42-44; and Claim 3.</p> |
| 5. | A method according to claim 4 and wherein said thumbnail visual image appears hovering over said hyperlink. | <p>Brown teaches displaying the thumbnail visual image hovering over a hyperlink: “Thumbnail assistant 516 monitors the pointer location (step 1130) to determine if the pointer is located over a link on the currently viewed web page (step 1135). If the pointer is not over a link, then thumbnail assistant 516 continues to monitor the pointer (step 1130). However, if the pointer is over an active area associated with a link (step 1135), then thumbnail assistant 516 displays the thumbnail associated with that link. Preferably, the thumbnail is displayed near the link. An example of a pop-up is illustrated in FIG. 12 where the pointer is over link number 2 and a thumbnail image of that linked page is displayed near the pointer.” [Brown at col. 7:57-67]</p> <p>See also, Figure 12 showing a thumbnail visual image hovering over a hyperlink:</p> |

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| | |  <p style="text-align: center;"><i>FIG. 12</i></p> |
| 6. | <p>A method according to claim 1 and wherein a plurality of thumbnail images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink.</p> | <p>Brown discloses applying a plurality of thumbnail images as described here:</p> <p>“In one preferred embodiment, the thumbnails are displayed in-line (that is each thumbnail is placed below the preceding thumbnail in a vertical line) near the corresponding link on the currently displayed web page as illustrated in FIG. 8.” [Brown at col. 6:33-37]</p> <p>Figures 8, 9, and 10 <i>supra</i> illustrate a result page described by Brown. Each figure shows a plurality of thumbnail images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink.</p> |

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| 7. | A method according to claim 1 and wherein said web page comprises an HTML page. | <p>Brown states that the web page comprises an HTML page.</p> <p>“Although the present invention has been described primarily with reference to HTML documents, the present invention applies to other document formats and markup languages as well. For example, such other markup languages include, but are not limited to, Extensible Markup Language (XML), Vector Markup Language (VML), Virtual Reality Markup Language (VRML), Dynamic Hypertext Markup Language (DHTML), and Extended Hypertext Markup Language (XHTML).” [Brown at col. 9:40-49]</p> <p>See also, Brown at Claim 7: “The method as recited in claim 1, wherein the markup language is a hypertext markup language.”</p> |
| 12. | <p>A method according to claim 1 and wherein said providing a-thumbnail visual image comprises:</p> <p>employing a web browser which interfaces via the Internet with a web server including visualization functionality.</p> | <p>“Furthermore, thumbnail assistant 516 could be utilized on a proxy server, wherein thumbnail assistant 516 pre-generates web pages on a web server prior to receipt by browser 500. In this instance, which would be preferred for legacy browsers, <u>the server would modify the stream sent to the user and place references to the thumbnails in that stream.</u>” [Brown at col. 5:46-52] (emphasis added)</p> |
| 13. | A method according to claim 12 and wherein said visualization functionality is operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web | <p>See Claim 12 analysis, <i>supra</i>, which is hereby incorporated by reference. One skilled in the art would understand ‘references to the thumbnails’ to include IMG tags, as defined in the HTML standard, specifying the path to be used by the browser to download the thumbnail image.</p> |

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| | browser, an annotated web page. | |
| 14. | A method according to claim 13 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page. | <p>“In one preferred embodiment, the thumbnails are displayed in-line (that is each thumbnail is placed below the preceding thumbnail in a vertical line) near the corresponding link on the currently displayed web page as illustrated in FIG. 8.” [Brown at col. 6:33-37]</p> <p>Figures 8, 9, and 10 <i>supra</i> illustrate a result page described by Brown. Each figure shows embedded thumbnail images which were provided at least partially concurrently with the search result page.</p> <p>Brown teaches displaying thumbnails of web pages, which would naturally include home pages as a subset.</p> <p>Brown also teaches displaying the home page of at least one web site which is represented by said at least one hyperlink. See Brown at column 8, lines 16-27: “In another embodiment of the pop-up thumbnails, <u>rather than generating and displaying thumbnails of the web pages associated with links, an icon representing the domain of that link could be generated and displayed next to the text representing the link.</u> For example, if the domain is associated with Yahoo, then an icon displaying the Yahoo logo might be displayed next to the link. Furthermore, the icon could be assigned by the user or by the domain itself, and picked up automatically by the browser. This icon would then pop-up next to the link as the pointer moves over the link, just as the thumbnail does in an example depicted in FIG. 12.” (emphasis added).</p> <p>One of ordinary skill in the art would have understood that a thumbnail preview image of a top level domain could serve as an iconic representation of that domain.</p> |
| 15. | A method according to claim 1 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 5 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| 18. | A system for presenting Internet information to a user comprising: | See Claim 1 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| | first functionality providing to a user a visual image of a web page containing at least one hyperlink; and | |
| | second functionality operative at least partially concurrently with said first functionality for providing a thumbnail visual image of the home page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image. | |
| 21. | A system according to claim 18 and wherein said thumbnail visual image is displayed within the visual image of said web page. | See Claim 4 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 22. | A system according to claim 21 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 5 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 23. | A system according to claim 18 and wherein a plurality of thumbnail visual images represented by at least one | See Claim 6 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| | hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | |
| 24. | A system according to claim 18 and wherein said web page comprises an HTML page. | See Claim 7 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 29. | A system according to claim 18 and wherein said second functionality comprises fourth functionality employing a web browser which interfaces via the Internet with a web server including visualization functionality. | See Claim 12 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 30. | A system according to claim 29 and wherein said visualization functionality is operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | See Claim 13 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 31. | A system according to claim 30 and wherein said annotated web | See Claim 14 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| | page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page. | |
| 32. | A system according to claim 18 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 15 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 35. | A method for presenting Internet information to a user comprising: | “The invention relates generally to the field of computer software and, more specifically, to Internet related computer software. . . . it would be beneficial for Internet users to have a tool to enable them to make more informed decisions about which links to follow.” [Brown at col. 1:23-25; 2:8-10] |
| | providing to a user a visual image of a web page containing at least one hyperlink; | “FIG. 8 shows a screen image for search results with thumbnails placed in-line near a respective link.” [Brown at col. 2:48-49] See also Figure 8, <i>infra</i> . |
| | and at least partially concurrently providing a thumbnail visual image of another web page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image, | <i>and at least partially concurrently providing a thumbnail of another web page of at least one web site which is represented by said at least one hyperlink via the Internet:</i> “In one preferred embodiment, the thumbnails are displayed in-line (that is each thumbnail is placed below the preceding thumbnail in a vertical line) near the corresponding link on the currently displayed web page as illustrated in FIG. 8.” [Brown at col. 6:33-37] Figures 8, 9, and 10 illustrate a result page described by Brown. Each figure shows embedded thumbnail images which were provided at least partially concurrently with the search result page. |

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| | | <p><i>by employing an image server that stores and provides said thumbnail visual image:</i></p> <p>Brown describes three methods one could implement to produce iconic representations of web page links. One of ordinary skill in the art would have understood that the third method describes a server that sends these iconic representations, i.e., an image server: “Three methods might be implemented in order to produce these iconic representations of web page link. In the first case, this information could be embedded in the source. In the second instance, assuming the user recognizes the icon as a link, the user would then check the associated domain location, as opposed to a database (local or remote or both), and retrieve the icon. This would be the preferred method, given that the source would not have to be modified. <u>Finally, the third alternative method for producing these icons is to send the information via a separate protocol/communication with the server.</u>” [Brown at col. 8:28-38]</p> <p>Additionally, Brown discloses employing a proxy server as an image server. The ‘908 Brown Patent discloses a “Thumbnail Assistant” that “intercepts and parses documents after communications 510 receives documents, but prior to processing by language interpretation 512. After parsing documents, thumbnail assistant 516 generates thumbnail images of linked pages to a loaded web page and displays these thumbnails to a user on a client machine. . . . Furthermore, <u>thumbnail assistant 516 could be utilized on a proxy server, wherein thumbnail assistant 516 pre-generates web pages on a web server prior to receipt by browser 500.</u> In this instance, which would be preferred for legacy browsers, the server would modify the stream sent to the user and place references to the thumbnails in that stream.” (emphasis added) [Brown at col. 5: 17-52]</p> <p>Brown additionally teaches storing thumbnail images for later use in a cache, which operates as an image server: “If the thumbnail option has been selected, then thumbnail assistant 516 parses the web page for links to other web pages (step 725). Thumbnail assistant 516 then checks the cache for linked pages and prefetches the linked pages that are not in the cache (step 730) using the prefetch mechanism associated with web browser 516. Thumbnail assistant 516 then generates thumbnails of each linked page that does not already have a thumbnail in the cache</p> |
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| | | <p>communicating via HTTP, a standard internet protocol, with a web server.</p> <p><u>“Communications block 510 is the mechanism with which browser 500 receives documents and other resources from a network such as the Internet.”</u> [Brown col. 5:13-15]</p> <p>While Brown discloses using the Thumbnail Assistant as a browser plug-in, see col. 5:37-45, it also discloses using the Thumbnail Assistant on “a proxy server, wherein thumbnail assistant 516 pre-generates web pages on a web server prior to receipt by browser 500.” [Brown col. 5:46-49] In this alternate embodiment, Brown discloses an image server, i.e. the Thumbnail Assistant residing on its own server and providing images to the web browser, which is separate from the web server with which the Communications (HTTP) block interacts directly to download the underlying web page.</p> <p>Brown describes a scenario where 1) the web browser downloads a web page from the Internet, 2) the Thumbnail Assistant parses the web page when it is returned from the Internet, and 3) the Thumbnail Assistant provides the necessary thumbnail preview images to the browser (either by generating them or by loading them from a storage cache). See e.g. col. 5:13-32; col. 7:50-55. When the Thumbnail Assistant is operating as a proxy server, as disclosed at col. 5:46-49, it is operating as an image server.</p> <p>If Brown is found not to anticipate the ‘web server, separated from said image server’ limitation, it would have been obvious to one of ordinary skill in the art to employ a separate image server based on the disclosures in:</p> <ul style="list-style-type: none"> • Berners-Lee (Exhibit 8) <i>or</i> • Akamai (Exhibit 11), <i>or</i> • DoubleClick (Exhibit 14), <i>or</i> • Leighton (Exhibit 15). |
| 38. | A method according to claim 35 and wherein said thumbnail visual | See Claim 4 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| | image is displayed within the visual image of said web page. | |
| 39. | A method according to claim 38 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 5 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 40. | A method according to claim 35 and wherein a plurality of thumbnail visual images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | See Claim 6 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 41. | A method according to claim 35 and wherein said web page comprises an HTML page. | See Claim 7 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 42. | A method according to claim 35 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page. | See Claim 13 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 44. | A method according to claim 35 and wherein said visualization functionality comprises: receiving | It would have been obvious to one of ordinary skill in the art to combine Brown with the disclosures below to trim a URL, if desired: |

- Praitis (Exhibit 13)

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| | a list of hyperlinks; | <ul style="list-style-type: none"> Nielsen (Exhibit 16). |
| | receiving a list of hyperlinks; | |
| | splitting a URL of each hyperlink into URL components including at least a path component and a host component; | |
| | trimming a path component based on the consideration of finding the most representative image of a given web page; | |
| | and constructing a new URL including a trimmed path component. | |
| 45. | A method according to claim 35 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 15 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 46. | A system for presenting Internet information to a user comprising: | See Claim 35 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| | first functionality providing to a user a visual image of a web page containing at least one hyperlink; and | |
| | second functionality operative at least partially concurrently with said first functionality for | |

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| | providing a thumbnail visual image of another web page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image, said second functionality comprising third functionality employing a web browser which interfaces via the Internet with a web server, separated from said image server, including visualization functionality, | |
| | said visualization functionality being operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | |
| 49. | A system according to claim 46 and wherein said thumbnail visual image is displayed within the visual image of said web page. | See Claim 38 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 50. | A system according to claim 49 and wherein said thumbnail visual image appears hovering over said | See Claim 39 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| | hyperlink. | |
| 51. | A system according to claim 46 and wherein a plurality of thumbnail visual images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | See Claim 40 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 52. | A system according to claim 46 and wherein said web page comprises an HTML page. | See Claim 41 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 53. | A system according to claim 46 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page | See Claim 42 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 55. | A system according to claim 46 and wherein said visualization functionality comprises | <i>See Claim 44 supra, which is hereby incorporated by reference.</i> |
| | receiving a list of hyperlinks; | |
| | splitting a URL of each hyperlink into URL components including at least a path component and a host component; | |

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| | trimming a path component based on the consideration of finding the most representative image of a given web page; and | |
| | constructing a new URL including a trimmed path component. | |
| 56. | A system according to claim 46 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 45 analysis, <i>supra</i> , which is hereby incorporated by reference. |

EXHIBIT G2

Kraft (U.S. Patent No. 7,177,948) In Combination

The following claims are invalid as being obvious over Kraft in view of the incorporated references

US Patent 7,177,948. *Method and apparatus for enhancing online searching*. (Kraft; Reiner, Sundaresan; Neelakantan. Filed Nov. 18, 1999. Issued Feb. 13, 2007.

As set forth below, US Patent 7,177,948 ('Kraft'), alone or in combination with each listed reference, discloses each and every element claimed in the listed claims of the '904 patent, when analyzed under the standard set forth in *KSR v. Teleflex*, 127, S. Ct. 1727 (2007):

- Exhibit 5: Cockburn, Greenberg et. al., ('Cockburn'), or
- Exhibit 6: CNN Interactive ('CNN Interactive'), or
- Exhibit 7: US Patent 6,356,908 ('Brown'), or
- Exhibit 8: Berners-Lee et. al. ('Berners-Lee') or
- Exhibit 9: 6,058,417 (Hess) or
- Exhibit 10: Frankel, Swain et. al., ('Frankel') or
- Exhibit 11: Akamai Freeflow ('Akamai'), or
- Exhibit 12: Sclaroff et. al. ('Sclaroff') or
- Exhibit 13: US Patent 6,594,697 ('Praitis'), or
- Exhibit 14: DoubleClick Ad Server ('Doubleclick'), or
- Exhibit 15: US Patent 6,108,703 ('Leighton'), or
- Exhibit 16: US Patent 5,761,436 ('Nielsen').

| Claim # | The '904 Patent | Disclosure of Each Limitation in Kraft ¹ |
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| 1. | A method for presenting Internet information to a user comprising: | "The present invention generally relates to online search technologies and document summarizations. More specifically, the present invention relates to a method and apparatus for efficiently processing search results obtained in response to a user |

¹ I reserve the right to revise this report and charts attached thereto concerning the invalidity of the asserted claims depending upon the Court's construction of the asserted claims, any findings as to the priority date of the asserted claims, and/or positions that Plaintiff or its expert witness(es) may take concerning claim interpretation, construction, infringement, and/or invalidity issues. It is also my understanding that certain discovery has yet to be conducted or completed in this matter and I further reserve the right to supplement my report should additional information become available.

Kraft (U.S. Patent No. 7,177,948) In Combination

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| | | <p>query. . . . An important use of computers is the transfer of information over a network. Currently, the largest computer network in existence is the Internet, which, as is well known, is a worldwide interconnection of computer networks that communicate using a common protocol. . . . Today, finding information as easily and quickly as possible has become a crucial problem. The World Wide Web contains millions of documents spread over hundreds of thousands of computers throughout the world. Although hypertext links tie all these documents together, the distributed architecture of the Web produces an incoherent system that often makes it very difficult for users to locate documents. Search engines have become more and more important with the continuous growth of information in order to find and retrieve information from a large repository such as the Internet and databases.”</p> <p>[Kraft – col. 1:7-67]</p> |
| | providing to a user a visual image of a web page containing at least one hyperlink; | <p>“FIG 1 shows a typical result page 5 based on an online search. The result page 5 may contain hyperlinks 10 to external resources that matched the original query.”</p> <p>[Kraft – col. 4:63-65]</p> |
| | and at least partially concurrently providing a thumbnail visual image of the home page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image. | <p><i>and at least partially concurrently providing a thumbnail of the home page of at least one web site which is represented by said at least one hyperlink via the Internet:</i></p> <p>“The result page 5 generally includes a short summary description 12 and a visual abstract (i.e., thumbnail) image 14 for each document found in the search.” [Kraft – col. 4:63-5:1]</p> <p>Figures 1 and 3 illustrate the result page described by Kraft. Each figure shows embedded thumbnail images which were provided at least partially concurrently with the search result page. Figure 1 additionally shows an embedded thumbnail image of the home page of the “www.infoseek.com” website, which was provided at least partially concurrently with the search result page.</p> |

Kraft (U.S. Patent No. 7,177,948) In Combination

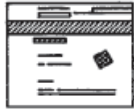


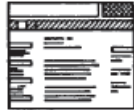
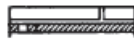
| | |
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| 10 | |
| OTHER XML RESOURCES | |
| 12 | <p>1) http://www.infoworld.com/cgi-bin/displaycommerce.pl?prophet.htm Rank 10%: Abstract: Market's love affair with Internet stocks won't end happily (InfoWorld) START DC Enhanced CODE Iframe for no Iframes Layers Capable Browsers Iflayer The Layer definition is located at the bottom of the</p>  |
| 10 | <p>2) http://www.infoseek.com/ Rank 10%: Abstract: GO Network-Start Here- Header Begin Go branding and searchbox placement Member service links. Member Services New Membership Free-E-mail sign in BEGIN SEARCH INFOSEEK SEARCH Tips Advancedsearch START</p>  |
| 10 | <p>3) http://www.wired.com/news/news/culture/story/10124.html Rank 8%: Abstract: Culture News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot end</p>  |
| 12 | <p>4) http://www.wired.com/news/news/technology/story/16221.html Rank 8%: Abstract: Technology News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot e</p>  |
| | <p>5) http://www.wired.com/news/news/technology/story/12888.html</p>  |

FIG.1

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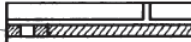
| | | |
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| | <p>3) http://www.wired.com/news/news/culture/story/10124.html Rank 8%: Abstract: Culture News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot end</p> |  |
| <p>10</p> <p>12</p> | <p>4) http://www.wired.com/news/news/technology/story/16221.html Rank 8%: Abstract: Technology News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot e</p> |  |
| | <p>5) http://www.wired.com/news/news/technology/story/12888.html</p> |  |

FIG.3

by employing an image server that stores and provides said thumbnail visual image:

Kraft discloses using a server that stores and provides said thumbnail visual image:

“Generation of the medium sized thumbnail (also called the medium sized visual abstract) is preferably done on the server side. The server preferably uses a caching mechanism to store the medium sized visual abstracts in a cache database so that users who later access the same document need not regenerate the medium sized abstract. The database may be programmed to store the medium sized visual abstract for a specific amount of time and then delete the abstract to conserve space.”
[Kraft – col. 4:50-58]

“The system is preferably implemented as a distributed client-server application as described below with respect to FIG. 4. This disclosed system is not limiting as

Kraft (U.S. Patent No. 7,177,948) In Combination

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| | <p>other systems that perform the above disclosed method are also within the scope of the present invention. . . . On the client side of the system, the event handler 20 tracks actions of the user. . . . If a user moves the mouse pointer over a specific spot on a result item, or preferably over a (small) visual abstract 14, the event handler 20 triggers an event to the image requester 22 that contains the result item number/id (e.g., document number) and the URL of the requested documents. . . . <u>The image requester 22 requests the medium sized thumbnail 16 of a document from the server.</u> . . . The above-described client-side components and their basic functionalities are already integrated into most modern web browser technologies. These web browsers provide an application programming interface (API) for scripting languages to achieve the functionalities discussed above. . . . The <u>server-side components</u> interact closely to achieve the desired result. . . . The URL loader 26 looks to the local cache (i.e., cache database 30) by asking the cache manager 28 whether a medium sized thumbnail 16 for the requested document is already stored in the cache database 30. This saves time and increases the overall performance of the system. The system may also include additional component(s) that detect idle cycles of the system and then uses these to generate the medium sized thumbnail 16 in advance.” [Kraft – col. 5:39-6:21]</p> <p>“Finally, the cache manager 28 stores image thumbnails (i.e., visual abstracts) in a cache database 30 and keeps track of the rendered documents along with a time stamp for each resource. Before the time intensive process of rendering and image processing is initiated, the system first queries the cache manager 28 to determine whether the document is already processed. If so, then the cache manager 28 simply returns the visual abstract.” [Kraft col. 8:44-51]</p> <p>See also, Figure 4:</p> |
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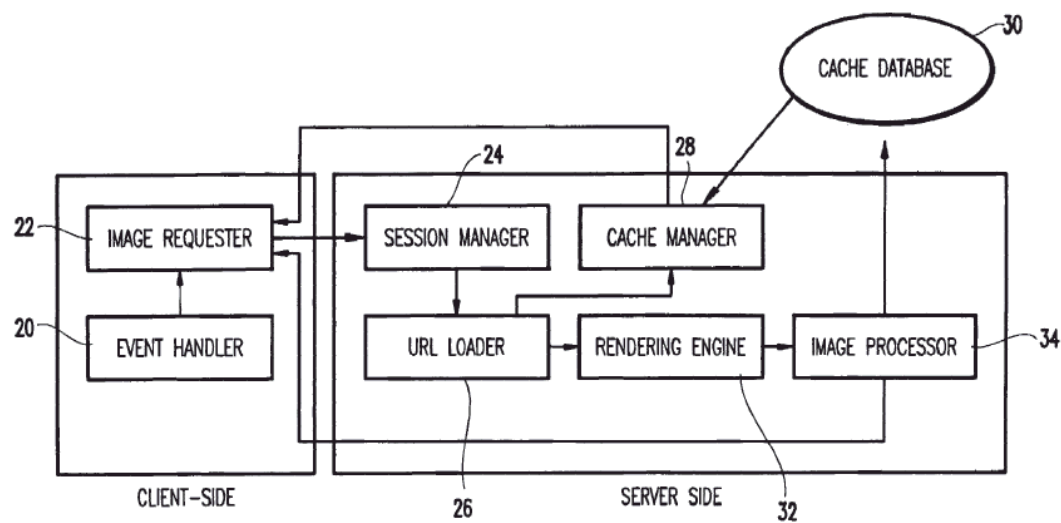
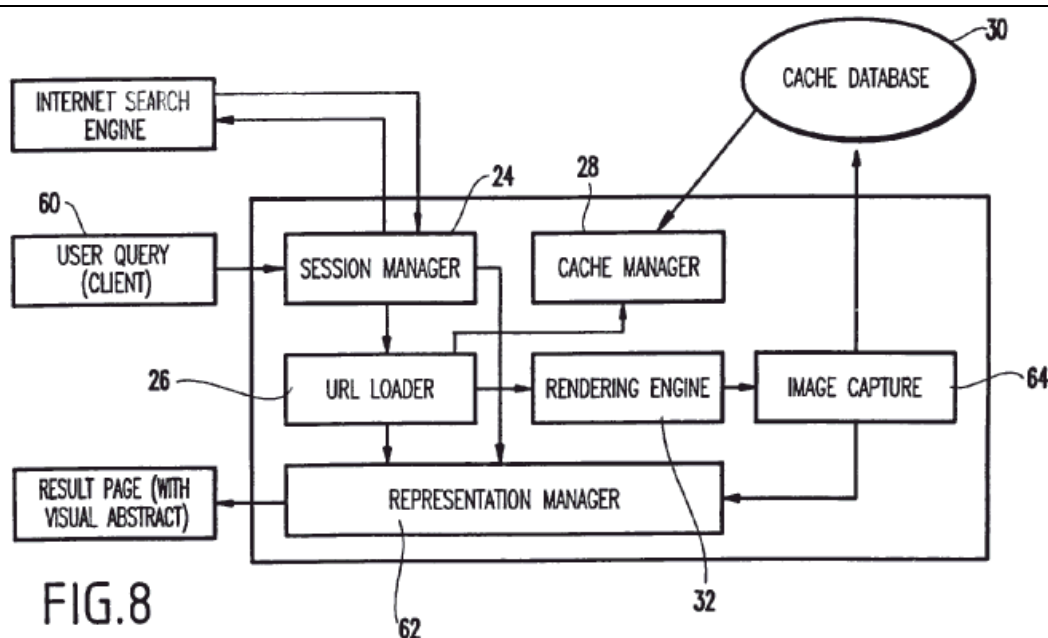


FIG.4

and Figure 8:

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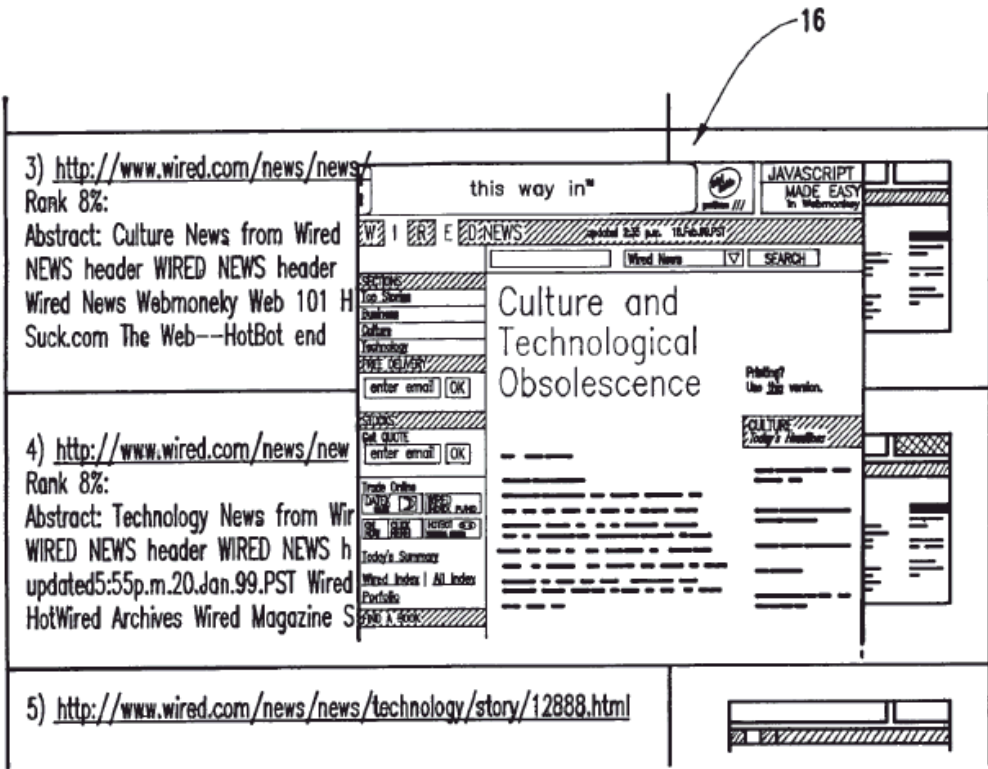
“For performance reasons, the complete process can be enhanced using existing caching technologies, which is handled by the cache manager 28 as shown in FIG. 8.” [Kraft at col. 7:60-63]

See also, col. 7:43-45.

If Kraft is found not to anticipate the ‘home page’ limitation, it would have been obvious to one of ordinary skill in the art to display a home page based on the disclosures in:

- Cockburn (Exhibit 5) *or*
- CNN Interactive (Exhibit 6) *or*
- Brown (Exhibit 7).

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| 4. | A method according to claim 1 and wherein said thumbnail visual image is displayed within the visual image of said web page. | Figures 1 and 3, <i>supra</i> , teach displaying the thumbnail visual image within the visual image of said web page. See also, col. 3:9-12 and col. 7:25-33. |
| 5. | A method according to claim 4 and wherein said thumbnail visual image appears hovering over said hyperlink. | <p>Figure 2 shows a thumbnail visual image hovering over a hyperlink:</p>  <p>FIG.2</p> |

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| | | See also, col. 3:12-14; 5:14-18, Claims 5, 6, and 7. |
| 6. | A method according to claim 1 and wherein a plurality of thumbnail images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | <p>Kraft discloses applying a plurality of thumbnail images as disclosed in this claim as described here:</p> <p>“The result page 5 generally includes a short summary description 12 and a visual abstract (i.e., thumbnail) image 14 for each document found in the search.” [Kraft – col. 4:63-5:1]</p> <p>Figures 1 and 3 <i>supra</i> illustrate the result page described by Kraft. Each figure shows a plurality of embedded thumbnail images Figure 1 additionally shows that one of these embedded thumbnail image is of the home page of the “www.infoseek.com” website.</p> |
| 7. | A method according to claim 1 and wherein said web page comprises an HTML page. | <p>“In the Web environment, Web browsers are clients and Web documents reside on servers. Web clients and Web servers communicate using a protocol called ‘Hypertext Transfer Protocol’ (HTTP). A browser opens a connection to a server and initiates a request for a document. The server delivers the requested document, typically in the form of a text document coded in a standard Hypertext Markup Language (HTML) format.” [Kraft col. 1:28-35]</p> <p>A preferred embodiment of the ‘948 patent uses such a client-server system. [Kraft col. 5:39-41]</p> |
| 12. | A method according to claim 1 and wherein said providing a-thumbnail visual image comprises: employing a web browser which interfaces via the Internet with a web server including visualization | <p>“The above-described client-side components and their basic functionalities are already integrated into most modern web browser technologies. The server-side components interact closely together to achieve the desired result. . . . The image is passed to the image requester 22 on the client side so that the medium sized thumbnail 16 can be displayed.” [Kraft col. 6:1-41 (describing web server visualization process)]</p> <p>See also, Figure 4, <i>supra</i>, illustrating a web server which includes visualization</p> |

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| | functionality. | <p>functionality.</p> <p>Kraft also describes the interaction between the browser and the server.</p> <p>“In the client-side of the system, the event handler 20 tracks actions of the user. Typically users use pointing devices, such as a mouse, to scroll and move through displayed results. These movements are evaluated by the event handler 20 . If a user moves the mouse pointer over a specific spot on a result item, or preferably over a (small) visual abstract 14 , the event handler 20 triggers an event to the image requester 22 that contains the result item number/id (e.g., document number) and the URL of the requested document. The event handler 20 may also be responsible for hiding or discarding the medium sized visual abstract 16 on the client side once it is no longer needed.</p> <p>The image requester 22 requests the medium sized thumbnail 16 of a document from the server. The request may be served either from a local cache on the client side [or] via a HTTP request to the server side. The image requester 22 obtains the medium sized thumbnail 16 and passes it to the web browser for display on a display screen [Kraft, at col. 5:46 to 5:64]</p> |
| 13. | A method according to claim 12 and wherein said visualization functionality is operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | <p>“The image thumbnail along with session information and URL is passed to the representation manager 62, which will construct the result page for the user and integrate the visual abstracts to the summary abstract listing.” [Kraft col. 8:40-43]</p> <p>Kraft discloses using event handlers and a standard API to control the behavior of the display of thumbnails. [Kraft at col. 5:39-6:5]. Kraft emphasizes that it is using a scripting language as a way to embed these commands in the above disclosure:</p> <p>“The above-described client-side components and their basic functionalities are already integrated into most modern web browser technologies. These web browsers provide an application programming interface (API) for scripting languages to achieve the functionalities discussed above.” [Kraft at col. 6:1 to 6:5]</p> <p>See also, Figure 8, <i>supra</i>, detailing the process of creating a result page containing</p> |

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| | | thumbnail visual abstracts. |
| 14. | A method according to claim 13 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page. | Figures 1 and 3 illustrate the result page described by Kraft. Each figure shows embedded thumbnail images with the search result page. Figure 1 additionally shows an embedded thumbnail image of the home page of the “www.infoseek.com” website, which was provided at least partially concurrently with the search result page. |
| 15. | A method according to claim 1 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 5 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 16. | A method for generating an image server database of thumbnail visual images of web pages, the method comprising: | |
| | receiving a list of URLs corresponding to said web pages, the thumbnail visual images of which it is desired to supply to said image server database; | <p>Kraft teaches receiving a list of URLs, in this case generated by the search engine.</p> <p>“If the visual abstracts are enabled, it passes the user query to the search engine system, waits for the returned results and forwards the returned results along with session information to the URL loader 26 .</p> <p>The URL loader 26 takes a list of URLs as an input and then loads the document associated with an URL. When a document is loaded, it forwards the document along with the session id to the rendering engine 32 . If a document cannot be loaded, an error message may be passed directly to the representation manager 62 so that the representation manager 62 can skip this entry.</p> <p>For performance reasons, the URL loader 26 asks the cache manager 28 whether the desired URL was previously loaded. In this case it can directly retrieve the rendered</p> |

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| | | <p>and captured image from the cache manager 28 and pass the visual abstract to the representation manager 62 . This saves a lot of work and time and therefore speeds up response time.</p> <p>The rendering engine 32 takes a HTML document as an input and renders the document. This rendering process can be compared with viewing a HTML document within a web browser. The web browser parses the document and generates the visual representation. However, the result of the rendering process may not be immediately presented to the user. It's an intermediary result that will be passed to the image capturer 64 . If the rendering process fails, an error message will be passed to the representation manager 62 so that the representation manager 62 can skip this entry.”</p> |
| | operating a multiplicity of downloaders simultaneously to retrieve from the Internet, web pages and embedded objects corresponding to URLs from said list; | <p>The URL loader 26 takes a list of URLs as an input and then loads the document associated with an URL. When a document is loaded, it forwards the document along with the session id to the rendering engine 32 . If a document cannot be loaded, an error message may be passed directly to the representation manager 62 so that the representation manager 62 can skip this entry.</p> <p>For performance reasons, the URL loader 26 asks the cache manager 28 whether the desired URL was previously loaded. In this case it can directly retrieve the rendered and captured image from the cache manager 28 and pass the visual abstract to the representation manager 62 . This saves a lot of work and time and therefore speeds up response time.</p> <p>The rendering engine 32 takes a HTML document as an input and renders the document. This rendering process can be compared with viewing a HTML document within a web browser. The web browser parses the document and generates the visual representation. However, the result of the rendering process may not be immediately presented to the user. It's an intermediary result that will be passed to the image capturer 64 . If the rendering process fails, an error message will be passed to the representation manager 62 so that the representation manager 62 can skip this</p> |

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| | | entry.” |
| | causing a thumbnail generator to render retrieved web pages retrieved simultaneously by said multiplicity of downloaders; and | The image capturer 64 takes a screen capture of the rendered document and generates an image thumbnail by resizing the original image....[KRAFT at Col. 8:6-8:51] |
| | causing said thumbnail generator to shrink said rendered images of said retrieved web pages and supply them to said image server database. | <p>Kraft teaches shrinking and storing the rendered images in an image server database.</p> <p>“The image capturer 64 takes a screen capture of the rendered document and generates an image thumbnail by resizing the original image. This image may then be passed to the cache manager 28 along with a time stamp for later reuse. This prevents the system from skipping rendering and image processing for documents that were already rendered. The image thumbnail along with session information and URL is passed to the representation manager 62 , which will construct the result page for the user and integrate the visual abstracts to the summary abstract listing. [KRAFT at Col. 8:6-8:51, emphasis added]</p> <p>“Finally, the cache manager 28 stores image thumbnails (i.e., visual abstracts) in a cache database 30 and keeps track of the rendered documents along with a time stamp for each resource. Before the time intensive process of rendering and image processing is initiated, the system first queries the cache manager 28 to determine whether the document is already processed. If so, then the cache manager 28 simply returns the visual abstract.” [KRAFT at Col. 8:6-8:51, emphasis added]</p> <p>If Kraft is found not to anticipate the ‘multiplicity of downloaders’ limitation or the ‘image server database’ limitation, it would have been obvious to one of ordinary skill in the art to employ the ‘multiplicity of downloaders’ and/or an ‘image server database’ based on the disclosures in:</p> <ul style="list-style-type: none"> • Hess (Exhibit 9) <i>or</i> • Frankel (Exhibit 10) <i>or</i> • Sclaroff (Exhibit 12). |

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| 17. | A method according to claim 16 also comprising deleting executable content from said retrieved web pages. | <p>The thumbnail generated image of the retrieved web page necessarily deletes executable content, as images do not contain executable content.</p> <p>If Kraft is found not to anticipate the ‘deleting executable content’ limitation, it would have been obvious to one of ordinary skill in the art to delete executable content based on the disclosures in:</p> <ul style="list-style-type: none"> • Hess (Exhibit 9) <i>or</i> • Frankel (Exhibit 10) <i>or</i> • Sclaroff (Exhibit 12). |
| 18. | A system for presenting Internet information to a user comprising: | See Claim 1 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| | first functionality providing to a user a visual image of a web page containing at least one hyperlink; and | |
| | second functionality operative at least partially concurrently with said first functionality for providing a thumbnail visual image of the home page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image. | |

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| 21. | A system according to claim 18 and wherein said thumbnail visual image is displayed within the visual image of said web page. | See Claim 4 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 22. | A system according to claim 21 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 5 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 23. | A system according to claim 18 and wherein a plurality of thumbnail visual images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | See Claim 6 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 24. | A system according to claim 18 and wherein said web page comprises an HTML page. | See Claim 7 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 29. | A system according to claim 18 and wherein said second functionality comprises fourth functionality employing a web browser which interfaces via the Internet with a web server including visualization | See Claim 12 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| | functionality. | |
| 30. | A system according to claim 29 and wherein said visualization functionality is operative to embed commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | See Claim 13 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 31. | A system according to claim 30 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page. | See Claim 14 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 32. | A system according to claim 18 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 15 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 33. | A system for generating an image server database of thumbnail visual images of web pages, the system comprising: | See 16 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| | a multiplicity of downloaders, each receiving at least one URL from a list of URLs corresponding to said web pages, the thumbnail visual images of | |

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| | which it is desired to supply to said image server database, and | |
| | simultaneously retrieving from the Internet web pages and embedded objects corresponding to said at least one URL; and | |
| | at least one thumbnail generator operative to render the web pages, shrink said rendered images of the web pages and supply said rendered images to said image server database. | |
| 34. | A system according to claim 33 and wherein said multiplicity of downloaders are operative to delete executable content from the web pages. | See 17 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 35. | A method for presenting Internet information to a user comprising: | <p>“The present invention generally relates to online search technologies and document summarizations. More specifically, the present invention relates to a method and apparatus for efficiently processing search results obtained in response to a user query. . . . An important use of computers is the transfer of information over a network. Currently, the largest computer network in existence is the Internet, which, as is well known, is a worldwide interconnection of computer networks that communicate using a common protocol. . . . Today, finding information as easily and quickly as possible has become a crucial problem. The World Wide Web contains millions of documents spread over hundreds of thousands of computers throughout the world. Although hypertext links tie all these documents together, the distributed architecture of the Web produces an incoherent system that often makes it very difficult for users to locate documents. Search engines have become more and more important with the continuous growth of information in order to find and retrieve information from a large repository such as the Internet and databases.”</p> <p>[Kraft – col. 1:7-67]</p> |

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| | providing to a user a visual image of a web page containing at least one hyperlink; | “FIG 1 shows a typical result page 5 based on an online search. The result page 5 may contain hyperlinks 10 to external resources that matched the original query.” [Kraft – col. 4:63-65] |
| | and at least partially concurrently providing a thumbnail visual image of another web page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image, | <p><i>and at least partially concurrently providing a thumbnail of another web page of at least one web site which is represented by said at least one hyperlink via the Internet:</i></p> <p>“The result page 5 generally includes a short summary description 12 and a visual abstract (i.e., thumbnail) image 14 for each document found in the search.” [Kraft – col. 4:63-5:1]</p> <p>Figures 1 and 3 illustrate the result page described by Kraft. Each figure shows embedded thumbnail images of web pages which were provided at least partially concurrently with the search result page.</p> |

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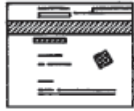


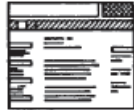
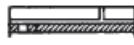
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| 10 | |
| OTHER XML RESOURCES | |
| 12 | <p>1) http://www.infoworld.com/cgi-bin/displaycommerce.pl?prophet.htm Rank 10%: Abstract: Market's love affair with Internet stocks won't end happily (InfoWorld) START DC Enhanced CODE Iframe for no Iframes Layers Capable Browsers Iflayer The Layer definition is located at the bottom of the</p>  |
| 10 | <p>2) http://www.infoseek.com/ Rank 10%: Abstract: GO Network-Start Here- Header Begin Go branding and searchbox placement Member service links. Member Services New Membership Free-E-mail sign in BEGIN SEARCH INFOSEEK SEARCH Tips Advancedsearch START</p>  |
| 10 | <p>3) http://www.wired.com/news/news/culture/story/10124.html Rank 8%: Abstract: Culture News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot end</p>  |
| 12 | <p>4) http://www.wired.com/news/news/technology/story/16221.html Rank 8%: Abstract: Technology News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot e</p>  |
| | <p>5) http://www.wired.com/news/news/technology/story/12888.html</p>  |

FIG.1

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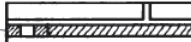
| | | |
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| | <p>3) http://www.wired.com/news/news/culture/story/10124.html Rank 8%: Abstract: Culture News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot end</p> |  |
| <p>10</p> <p>12</p> | <p>4) http://www.wired.com/news/news/technology/story/16221.html Rank 8%: Abstract: Technology News from Wired News TOP AD BANNER WIRED NEWS header WIRED NEWS header updated5:55p.m.20.Jan.99.PST Wired News Webmonkey Web 101 HotWired Archives Wired Magazine Suck.com The Web--HotBot e</p> |  |
| | <p>5) http://www.wired.com/news/news/technology/story/12888.html</p> |  |

FIG.3

by employing an image server that stores and provides said thumbnail visual image:

Kraft discloses using a server that stores and provides said thumbnail visual image:

“Generation of the medium sized thumbnail (also called the medium sized visual abstract) is preferably done on the server side. The server preferably uses a caching mechanism to store the medium sized visual abstracts in a cache database so that users who later access the same document need not regenerate the medium sized abstract. The database may be programmed to store the medium sized visual abstract for a specific amount of time and then delete the abstract to conserve space.”
[Kraft – col. 4:50-58]

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| | | <p>“The system is preferably implemented as a distributed client-server application as described below with respect to FIG. 4. This disclosed system is not limiting as other systems that perform the above disclosed method are also within the scope of the present invention. . . . On the client side of the system, the event handler 20 tracks actions of the user. . . . If a user moves the mouse pointer over a specific spot on a result item, or preferably over a (small) visual abstract 14, the event handler 20 triggers an event to the image requester 22 that contains the result item number/id (e.g., document number) and the URL of the requested documents. . . . <u>The image requester 22 requests the medium sized thumbnail 16 of a document from the server.</u> . . . The above-described client-side components and their basic functionalities are already integrated into most modern web browser technologies. These web browsers provide an application programming interface (API) for scripting languages to achieve the functionalities discussed above. . . . The <u>server-side components</u> interact closely to achieve the desired result. . . . The URL loader 26 looks to the local cache (i.e., cache database 30) by asking the cache manager 28 whether a medium sized thumbnail 16 for the requested document is already stored in the cache database 30. This saves time and increases the overall performance of the system. The system may also include additional component(s) that detect idle cycles of the system and then uses these to generate the medium sized thumbnail 16 in advance.” [Kraft – col. 5:39-6:21]</p> <p>“Finally, the cache manager 28 stores image thumbnails (i.e., visual abstracts) in a cache database 30 and keeps track of the rendered documents along with a time stamp for each resource. Before the time intensive process of rendering and image processing is initiated, the system first queries the cache manager 28 to determine whether the document is already processed. If so, then the cache manager 28 simply returns the visual abstract.” [Kraft col. 8:44-51]</p> <p>See also, Figure 4:</p> |
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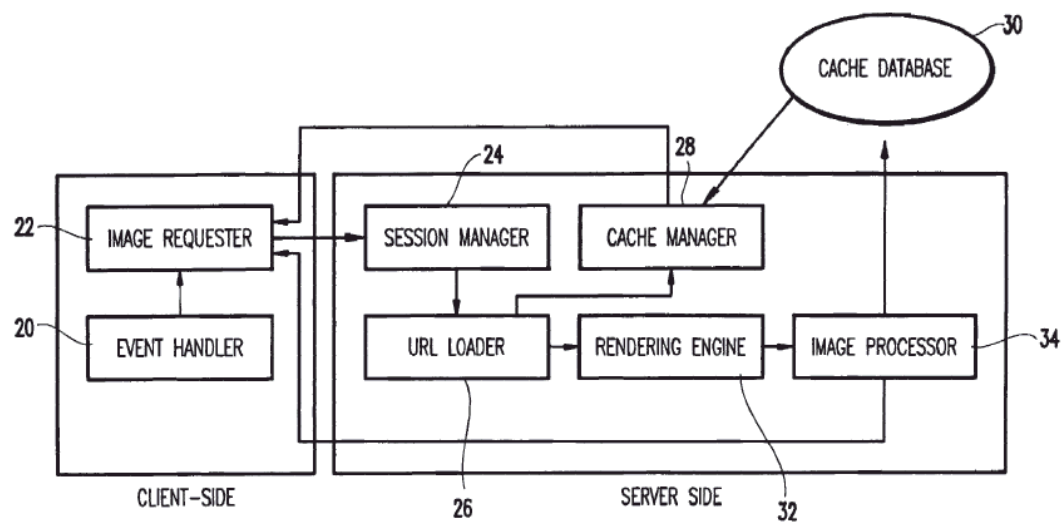
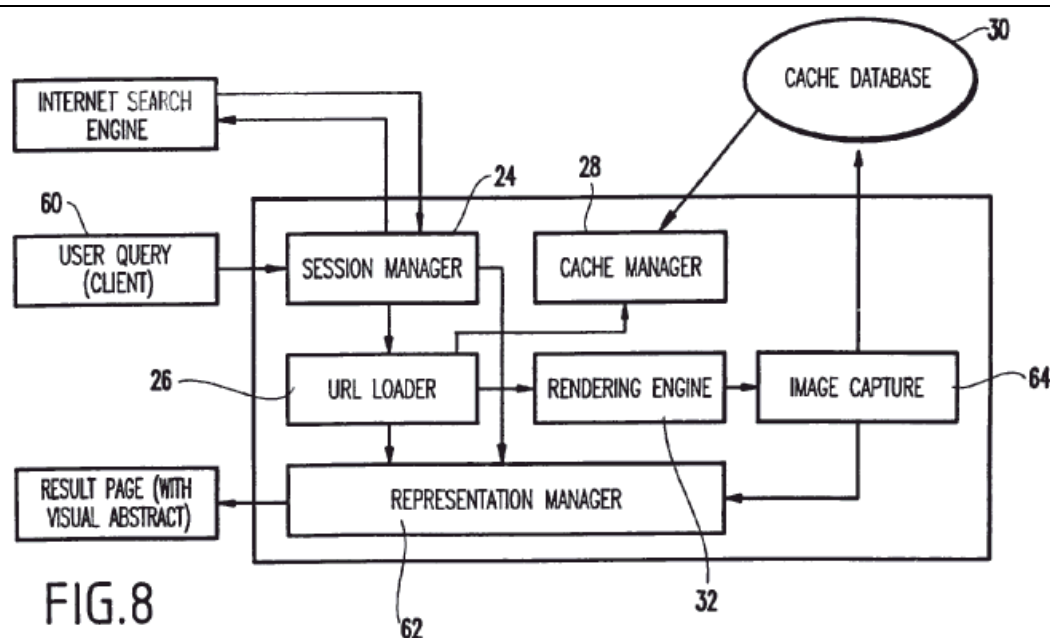


FIG.4

and Figure 8:

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“For performance reasons, the complete process can be enhanced using existing caching technologies, which is handled by the cache manager 28 as shown in FIG. 8.” [Kraft at col. 7:60-63]

See also, col. 7:43-45.

said providing a thumbnail visual image comprising employing a web browser which interfaces via the Internet with a web server, separated from said image server, including visualization functionality, said visualization functionality being operative to embed commands to the web

said providing a thumbnail visual image comprising employing a web browser which interfaces via the Internet with a web server:

“The above-described client-side components and their basic functionalities are already integrated into most modern web browser technologies. . . . The server-side components interact closely together to achieve the desired result.” [Kraft col. 6:17]

See also, Figure 4, *supra*, illustrating a web server which includes visualization

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| | <p>browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page.</p> | <p>functionality.</p> <p><i>separated from said image server:</i></p> <p>Kraft discloses an image server (an element of the Kraft preview system) that is separate from the web server (the source of the search engine results):</p> <p>“This system according to the present invention preferably works together with a text based search engine. <u>The user submits a query to the search engine.</u> The <u>system analyzes the search results and generates a visual abstract</u> of the original document. Then, the rendered document is converted to an image format (JPEG, TIFF) and the image is resized to a smaller size (i.e., a thumbnail size). The rendering and image converting process is a time consuming task, which can be done off-line for performance reasons. As a result, the modified result page of the search engine contains visual abstracts (thumbnails) of the documents rather than text based summaries.” (emphasis added) [Kraft col. 7:46-57]</p> <p>See also, Figure 8, <i>supra</i>, showing the User Query (60) being routed to the Internet Search Engine via the Session Manager (24), while a separate Cache Manager (28) stores and serves images:</p> <p>“For performance reasons, the URL loader 26 asks the cache manager 28 whether the desired URL was previously loaded. In this case it can directly retrieve the rendered and captured image from the cache manager 28 and pass the visual abstract to the representation manager 62. This saves a lot of work and time and therefore speeds up response time. . . . [T]he cache manager 28 stores image thumbnails (i.e., visual abstracts) in a cache database 30 and keeps tracks of the rendered documents along with a time stamp for each resource. Before the time intensive process of rendering and image processing is initiated, the system first queries the cache manager 28 to determine whether the document is already processed. If so, then the cache manager 28 simply returns the visual abstract.” [Kraft col. 8:17-51]</p> <p><i>including visualization functionality, said visualization functionality being operative to embed commands to the web browser to download, via said image server,</i></p> |
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| | | <p><i>thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page:</i></p> <p>“The image thumbnail along with session information and URL is passed to the representation manager 62, which will construct the result page for the user and integrate the visual abstracts to the summary abstract listing.” [Kraft col. 8:40-43]</p> <p>is found not to anticipate the ‘web server, separated from said image server’ limitation, it would have been obvious to one of ordinary skill in the art to employ a separate image server based on the disclosures in:</p> <ul style="list-style-type: none"> • Berners-Lee (Exhibit 8) <i>or</i> • Akamai (Exhibit 11), <i>or</i> • DoubleClick (Exhibit 14), <i>or</i> • Leighton (Exhibit 15). |
| 38. | A method according to claim 35 and wherein said thumbnail visual image is displayed within the visual image of said web page. | See Claim 4 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 39. | A method according to claim 38 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 5 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 40. | A method according to claim 35 and wherein a plurality of thumbnail visual images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page | See Claim 6 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| | containing at least one hyperlink. | |
| 41. | A method according to claim 35 and wherein said web page comprises an HTML page. | See Claim 7 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 42. | A method according to claim 35 and wherein said annotated web page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page. | See Claim 13 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 44. | A method according to claim 35 and wherein said visualization functionality comprises: receiving a list of hyperlinks; | <p>It would have been obvious to one of ordinary skill in the art to combine Brown with the disclosures below to trim a URL, if desired:</p> <ul style="list-style-type: none"> • Praitis (Exhibit 13) • Nielsen (Exhibit 16). |
| | receiving a list of hyperlinks; | |
| | splitting a URL of each hyperlink into URL components including at least a path component and a host component; | |
| | trimming a path component based on the consideration of finding the most representative image of a given web page; | |
| | and constructing a new URL including a trimmed path component. | |

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| 45. | A method according to claim 35 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 15 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 46. | A system for presenting Internet information to a user comprising: | See Claim 35 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| | first functionality providing to a user a visual image of a web page containing at least one hyperlink; and | |
| | second functionality operative at least partially concurrently with said first functionality for providing a thumbnail visual image of another web page of at least one web site which is represented by said at least one hyperlink via the Internet by employing an image server that stores and provides said thumbnail visual image, said second functionality comprising third functionality employing a web browser which interfaces via the Internet with a web server, separated from said image server, including visualization functionality, | |
| | said visualization functionality being operative to embed | |

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| | commands to the web browser to download, via said image server, thumbnail visual images of web pages which represent hyperlinks contained in the web page and to provide to a user, via the web browser, an annotated web page. | |
| 49. | A system according to claim 46 and wherein said thumbnail visual image is displayed within the visual image of said web page. | See Claim 38 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 50. | A system according to claim 49 and wherein said thumbnail visual image appears hovering over said hyperlink. | See Claim 39 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 51. | A system according to claim 46 and wherein a plurality of thumbnail visual images represented by at least one hyperlink are displayed simultaneously along with said visual image of a web page containing at least one hyperlink. | See Claim 40 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 52. | A system according to claim 46 and wherein said web page comprises an HTML page. | See Claim 41 analysis, <i>supra</i> , which is hereby incorporated by reference. |
| 53. | A system according to claim 46 and wherein said annotated web | See Claim 42 analysis, <i>supra</i> , which is hereby incorporated by reference. |

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| | page includes the web page having within it thumbnail visual images of homepages of web sites referenced by hyperlinks contained in the web page | |
| 55. | A system according to claim 46 and wherein said visualization functionality comprises | <i>See Claim 44 supra, which is hereby incorporated by reference.</i> |
| | receiving a list of hyperlinks; | |
| | splitting a URL of each hyperlink into URL components including at least a path component and a host component; | |
| | trimming a path component based on the consideration of finding the most representative image of a given web page; and | |
| | constructing a new URL including a trimmed path component. | |
| 56. | A system according to claim 46 and wherein said thumbnail visual image appears hovering over said hyperlink. | <i>See Claim 45 analysis, supra, which is hereby incorporated by reference.</i> |

EXHIBIT G3